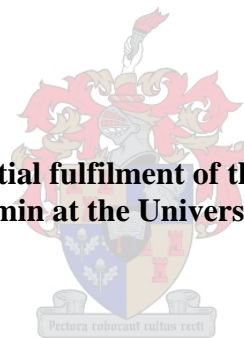


THE EFFECT OF HIV/AIDS ON HOUSEHOLD FOOD SECURITY:

A Case Study of Bokaa, a rural area in Botswana

Kutlwano Sebolaaphuti

**Thesis presented in partial fulfilment of the requirements for the degree
MAgricAdmin at the University of Stellenbosch**



Supervisor: Prof. Nick Vink

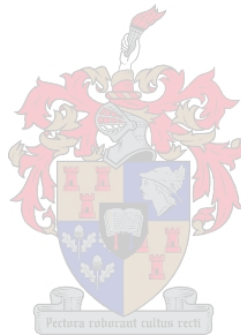
APRIL 2005

DECLARATION

I the undersigned declare that the work contained in this thesis is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

Signature.....

Date.....



Summary

HIV/AIDS has become a major concern globally as it affects different facets of a country's economy as well as household economics. This study aimed to determine the impact of the disease on household food security. This was done by investigating the impact of the disease on household livelihoods, agricultural production for subsistence purposes and household consumption patterns.

The study followed a case study approach, and Bokaa village in Kgatleng district, Botswana was selected as the study area. Data collection was done with the aid of a semi-structured questionnaire in multiple households as well as by gathering information from secondary sources. The study focused on the concept of food security as a theoretical base for the analysis, which was mainly a cross-case analysis. The analysis of individual cases is not presented in this thesis; nonetheless, individual cases are presented as illustrations and as backup for the synthesis. Furthermore, the analysis of food security only focused on calorie availability and not on nutritional quality.

The study revealed that the impact of HIV/AIDS varied according to the status in which the household was before the onset of the disease or the subsequent death. Coping strategies also varied, depending on household status and the level of contribution the sick family member made to the household's food budget. Inter-household effects and gender differentials have been observed during the time of caring for the sick family member. Inter-household effects have also been observed during times of food shortages. A high dependence on government safety nets has also been observed among these households, which contributed to some extent to lack of livelihood diversification.

The results of this study reveal the need for empowering households through training for income-generating skills and practise of small-scale home gardening in a more sustainable way. The need for nutrition education was also revealed, in order that traditional and nutritious options can be included in the household food consumption patterns and not only be regarded as an option when preferred foods such as meat are not available.

Opsomming

Daar is wêreldwyd besorgdheid oor die siekte HIV/VIGS, aangesien dit verskillende fassette van 'n land se ekonomie asook die ekonomie van huishoudings beïnvloed. Hierdie studie het ten doel gestel om die impak van die siekte op hushoudelike voedselsekuriteit te bepaal. Dit is gedoen deur die impak van die siekte op huishoudings se bestaansmiddele, landbou-produksie vir bestaansdoeleindes sowel as huishoudelike verbruikerspatrone te ondersoek.

Die studie het 'n gevallestudiebenadering gevolg, en die dorpie Bokaa in die Kgatlengdistrik van Botswana is as studie-area geselekteer. Data-insameling is gedoen met behulp van 'n semi-gestruktureerde vraelys in veelvuldige huishoudings sowel as deur inligting uit sekondêre bronne te versamel. Die studie het gefokus op die konsep van voedselsekuriteit as 'n teoretiese basis vir die analise, wat hoofsaaklik 'n kruis-geval analise was. Die analise van individuele gevalle word nie in hierdie tesis berig nie; individuele gevalle word nietemin aangebied ter illustrasie en as rugsteun vir die sintese. Verder het die analise van voedselsekuriteit slegs op kalorie-beskikbaarheid gefokus, en nie op voedingskwaliteit nie.

Die studie het laat blyk dat die impak van HIV/VIGS wissel na gelang van die status waarin die huishouding verkeer het voor die aanvang van die siekte of voor die resulterende sterfte. Hanteringstrategieë het ook gewissel, afhangende van huishoudingstatus en die vlak van bydrae wat die siek persoon tot die huishouding se kosbegroting gemaak het. Inter-huishoudingseffekte en geslagsdifferensiale is waargeneem tydens die tydperk van versorging van die siek familielid. Inter-huishoudingseffekte is ook waargeneem ten tye van voedseltekorte. 'n Hoë afhanklikheid van regeringsveiligheidsnetten is ook onder hierdie huishoudings waargeneem, wat tot 'n sekere mate bygedra het tot 'n tekort aan bestaanmiddeldiversifisering.

Die resultate van hierdie studie beklemtoon die behoefte aan die bemagtiging van huishoudings deur opleiding in inkomste-genereringsvaardigheid sowel as in die beoefening van kleinskaalse tuinbou tuis, laasgenoemde op 'n meer volhoubare wyse. Die behoefte aan voorligting oor voeding is ook aangedui, sodat tradisionele en voedsame opsies in die huishouding se voedselverbruikspatrone ingesluit kan word en nie net beskou word as 'n opsie wanneer voorkeurkosse (soos vleis) nie beskikbaar is nie.

Acknowledgements

Funding for my studies including this piece of research was provided by the government of Botswana through the Ministry of Agriculture, to whom I am greatly indebted.

I wish to express my sincere thanks to the following:

My supervisor Prof. Nick Vink, for constructive guidance throughout this study and for training me to work independently, it was a hard route but I appreciate every hard step.

The Family Welfare Educators (F.W.Es) at Bokaa clinic, your guidance and support is highly appreciated.

Mrs Frenette Southwood, thank you for your prayerful support and for editing this work.

To all my friends and the church in Stellenbosch, you have been my family and your support can not be likened to anything, I appreciate. May the good Lord bless you all.

To my inlaws, thank you for your understanding and support.

To my mother; Mummy, thank you for your prayerful support throughout my academic life, thanks for always reminding me to keep trusting the Lord. To my brother *Kealeboga*, those long phone calls kept me going although I sometimes felt the bill was too much for Mum, thank you.

Finally to my husband *Stephen* and son *Pako*, to whom I had become a stranger in the house, *guys* your love and support was “*the best part of every day*”. “*Mama, o ko Stellenbosch?*” (Mum, are you in Stellenbosch?) This question (through the phone) was painful at times. Steve, thank you for taking care of the boy. I will never be able to repay your good work, may God richly bless you.

Above all I want to thank my heavenly father for his grace, mercy and strength without which this thesis would not have been possible.

Dedication

To my family



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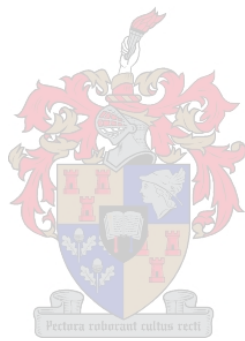
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ACRONYMS

<i>AIDS</i>	Acquired Immuno-deficiency Syndrome
<i>CHBC</i>	Community Home Based Care
<i>CSO</i>	Central Statistics Office
<i>DDP</i>	District Development Plan
<i>DFID</i>	Department for International Development
<i>FEW</i>	Family Welfare Educator
<i>FANR</i>	Food Agriculture and Natural Resources
<i>FAO</i>	Food and Agriculture Organisation of the United Nations
<i>FCND</i>	Food Consumption and Nutrition Division
<i>FEG</i>	Food Economy Group
<i>FNA</i>	Food Nutrition and Agriculture Department, FAO
<i>HBC</i>	Home Based Care
<i>HIV</i>	Human Immunodeficiency Virus
<i>IIASA</i>	International Institute for Applied Systems Analysis
<i>IFAD</i>	International Fund for Agricultural Development
<i>IFPRI</i>	International Food Policy Research Institute
<i>MoH</i>	Ministry of Health
<i>MLG</i>	Ministry of Local Government
<i>NACA</i>	National Aids Coordinating Agency
<i>NEWU</i>	National Early Warning Unit
<i>PANRUSA</i>	Poverty Policy and Natural Resource Use in Southern Africa
<i>REWU</i>	Regional Early Warning Unit (SADC)
<i>RNFS</i>	Revised National Food Strategy
<i>RNPDP</i>	Revised National Policy on Destitute Persons
<i>SADC</i>	Southern African Development Community
<i>UNAIDS</i>	Joint United Nations Programme HIV/AIDS
<i>UNDP</i>	United Nations Development Programme
<i>UNICEF</i>	United Nations Children's Fund
<i>VAC</i>	Vulnerability Assessment Committee
<i>WFS</i>	World Food Summit
<i>WHO</i>	World Health Organisation



CHAPTER I

INTRODUCTION AND BACKGROUND

1.1 Introduction

The Acquired Immunodeficiency Deficiency Syndrome (AIDS) is caused by the Human Immunodeficiency Virus (HIV) (Karn, 1995). In the past two decades, the disease has increased sharply and has spread from initially a few cases to large percentages of the world's population. The World Health Organisation (WHO) projected that before 2000 about 30-40 million people would be infected with HIV, which would include 5-10 million children (UNDP, 1992). The WHO figures were confirmed, when estimates for the end of 2000 reached 36 million (UNAIDS/WHO, 2000). These people would die from AIDS within 7-10 years (Karn, 1995). By the end of 2002, approximately 42 million people were living with HIV infection or AIDS. Of these, 38.6 million were adults and 3.2 million children. Among infected adults, 19.2 million were women, with the proportion growing (UNAIDS, 2002a; Whiteside *et al.* , 2003).

These figures indicated that HIV/AIDS had become the leading cause of adult deaths. The disease's consequences go beyond the health sector, becoming an economic and development issue as well (World Bank, 1999). At the most basic level, the disease increases morbidity (illness) and mortality (death), especially among young adults, infants and children. In line with this, life expectancy decreases (Ngom and Clark, 2003).

HIV/AIDS is of special concern for rural development. According to World Bank (1996) reports, studies in Africa indicated a differential between urban and rural prevalence rates, in that the urban areas appeared to have more cases of infection. However, prevalence rates in the rural sector were expected to increase (IFAD, 2001) due to movement and interchange between the two kinds of areas, facilitated by, amongst other things, successful rural development. Rural areas are therefore expected to experience the impact of HIV/AIDS. Kürschner (2001) observed that the movement of people with HIV/AIDS in Uganda was predominantly from urban centres to rural and remote areas. In addition, a report by Whiteside *et al.* (2003) reflected a narrow difference between urban and rural HIV/AIDS prevalence rates in Swaziland. The following aspects are of special concern in the rural areas:

- (i) A decline in remittances, as members of the community who are employed in the urban areas fall ill and die;
- (ii) An increased demand for resources, if people who lived away from the household return home for care as they fall ill;
- (iii) The reduction of labour availability for farming, either due to illness and/or death of productive household members or due to the fact that these productive members have to divide their time between farming and taking care of the sick (especially women);
- (iv) Changes in the family structure, as orphans come to the extended family home, needing care (and causing expenditure to increase); and
- (v) Greater demands on government budgets, especially for social expenditure.

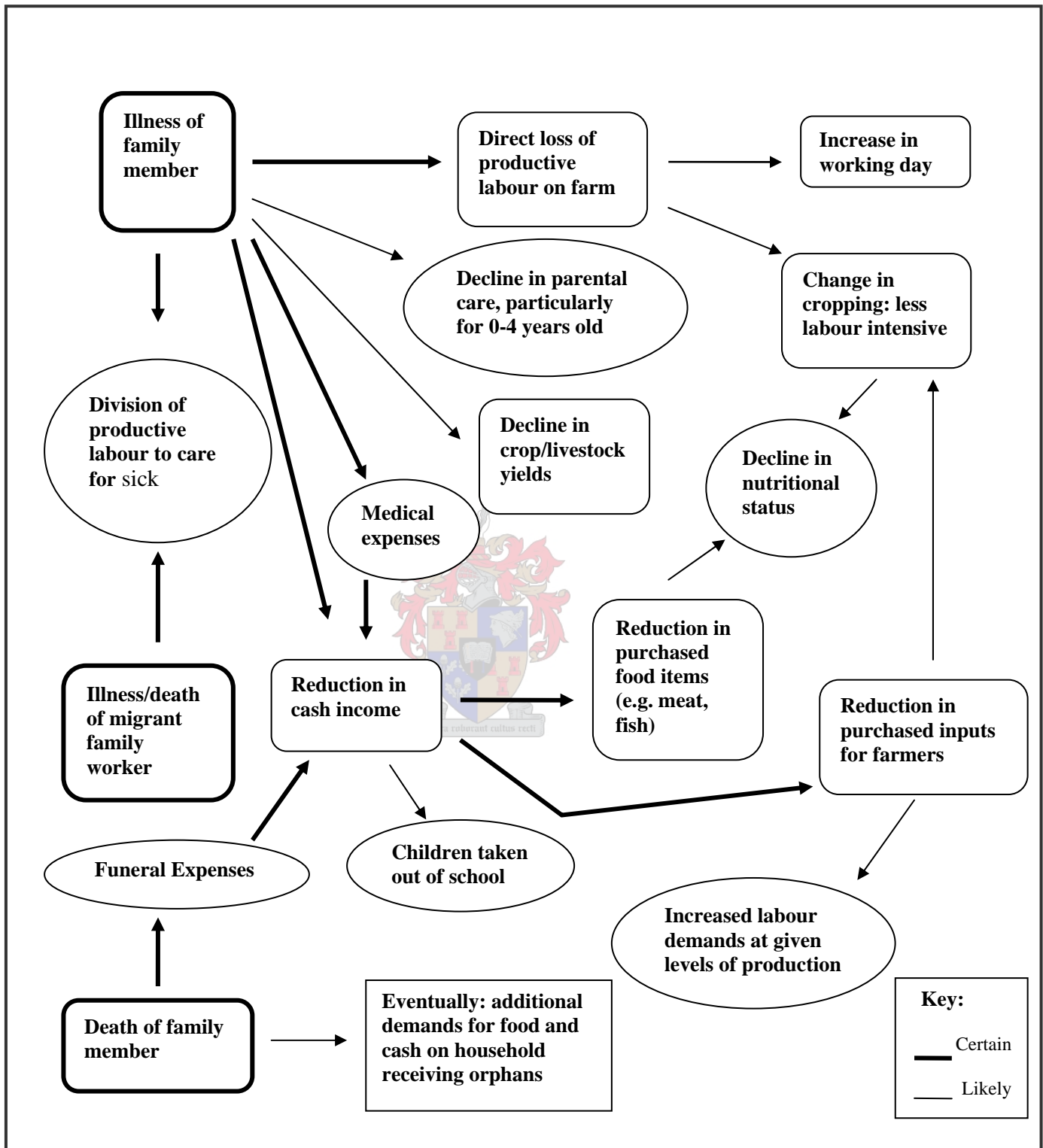
As rural areas are usually already disadvantaged, having less access to facilities and have more illiterate people (both of which may hinder HIV/AIDS education), AIDS may increase the existing urban bias. Skilled labourers, such as nurses and teachers, may be in short supply and less willing to accept unpopular rural postings (World Bank, 1996).

At the end of this line are the subsistence farmers, who generally cannot build up resources for contingencies such as those mentioned in (i) to (iv) above, and are struck the hardest by the effects of the disease. Figure 1 illustrates some of the possible ways in which HIV/AIDS can affect subsistence-farm households¹. The death of a household member may, for example, reduce the food available for consumption by the surviving household members. As household food security is defined as the ability of the household to secure adequate food to meet the dietary needs of its members for a healthy and active life, either through production or through purchases (FAO, 1999b), household food security may also be reduced by an increase in the number of people that need to be fed in a household as sick relatives and orphans arrive.

In addition, money for food purchases may need to be diverted to medical expenses and, in cases where farming families were producing both subsistence and cash crops; reduced family labour may also lead to the neglect of the cash crop and, as a result, a decline in the nutritional quality of the diet (FAO, 1999a).

¹ Although this framework of analysis has been designed for a subsistence-farm household, it has been adopted for this study, seeing that it captures most of the possible effects expected in a rural household which may not necessarily be a farm household (only) but may have other sources of livelihood.

Figure 1: The Impact of HIV/AIDS on the Household Domestic-Farm Labour Interface in Subsistence Communities

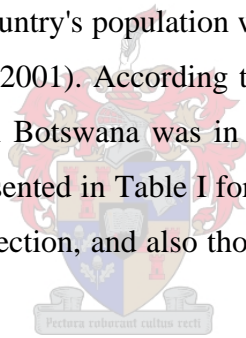


Source: Adopted from Panos Institute (1992)

As agricultural productivity has already decreased in most of the highly infected countries, leading to decreased food security, HIV/AIDS is expected to bring a decline in the quality and quantity of food (Bollinger and Stover, 1999).

According to UNAIDS (2002a) more than 90% of the 42 million infections estimated at the end of 2002 were in developing countries of which 70% (29.4 million) were in Sub-Saharan Africa. As observed by the United States Department of Agriculture (USDA 2001), the most affected regions in Sub-Saharan Africa are Southern and Eastern Africa. In this geographic region, a gender differential is also evident in the prevalence rate, with the prevalence among women peaking at age 25, 10-15 years earlier than men. The region is also faced with a decline in population growth rates due to HIV/AIDS, and labour shortages have become a major concern in some countries (World Bank, 2001). Bollinger and Stover (1999) therefore warn that the disease has the potential to create a severe economic crisis in many African countries.

Botswana is one of the Southern African countries that is reported to be severely affected by HIV/AIDS. The country's population was estimated at around 1.7 million in 2001 (Botswana Government, 2001). According to Botswana-Harvard (2003), the first case of HIV/AIDS reported in Botswana was in 1986. At the end of 2001, UNAIDS (2002b) held the estimates presented in Table I for the country. These estimates include everybody with HIV/AIDS infection, and also those who have not yet developed AIDS symptoms.



Since 2001, the disease has spread so fast in Botswana that it has been proclaimed a pandemic in this country. In 2003, the World Bank reported that 38.8% to 40% of people in Botswana in the 15-49 age groups have HIV/AIDS. With one in every three adults living with the virus, this country has the highest HIV/AIDS prevalence in Sub-Saharan Africa (World Bank, 2003). As a result, life expectancy in Botswana is expected to decline by about 29 years by 2005 (United Nations, 1998).

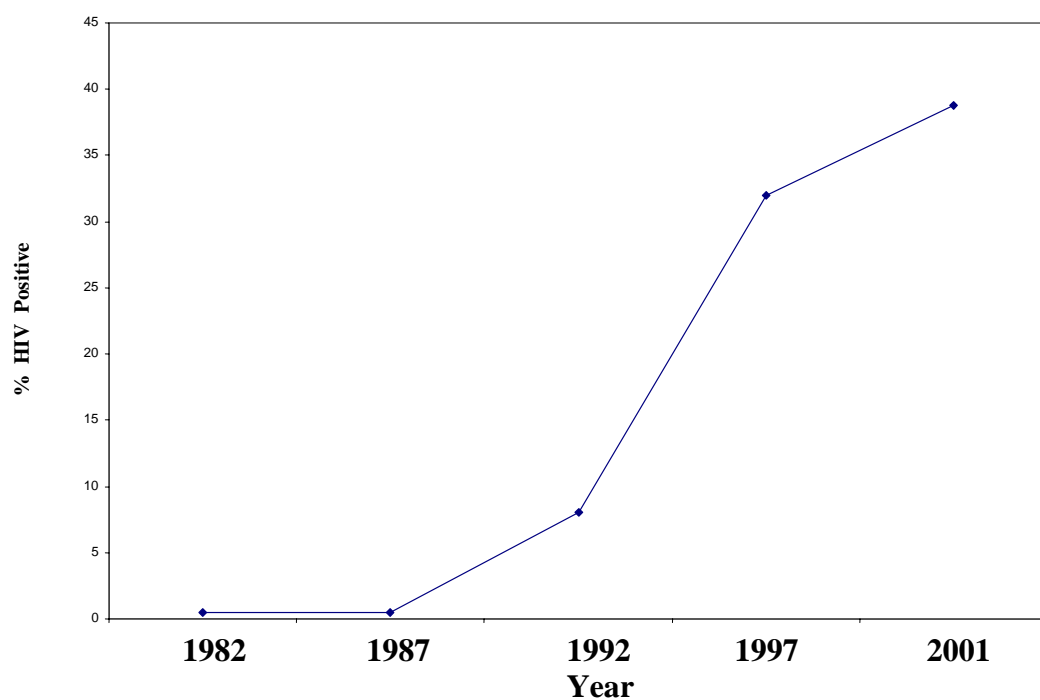
These figures essentially mean that the economically most productive age cohort (15-49-year olds) in Botswana, which encompasses breadwinners, is more affected by the pandemic than other age groups. Figure 2 shows the HIV/AIDS prevalence in this age group between 1982 and 2001 (FAO 1999a and UNAIDS 2002b).

Table 1: Estimated number of adults and children living with HIV/AIDS in Botswana

OCCURRENCE (Women and men aged 15 to 49, thus people in their sexually most active years)	
Adults and Children	330 000
Adults	300 000
Women (15-49)	170 000
Children (0-15)	28 000
Total	828 000
DEATHS	
Total	26 000
ORPHANS (Children under 15 who lost their mother and/or father due to AIDS. Of these, 65 000 were aged 6-12 (UNICEF, 2002))	
Total	69 000

Source: Adapted from UNAIDS (2002b: 2)

Figure 2: % HIV/AIDS Prevalence in Botswana (estimated adult (15-49) population)



Source: Adapted from FAO (1999a:4) and UNAIDS (2002b:2)

Statistics from antenatal clinics reflect an estimate of almost 40% of HIV/AIDS prevalence among expectant mothers (Botswana-Harvard, 2003 and UNICEF, 2002). People affected by HIV/AIDS in this age group also include cases of those sponsored by the government for further studies abroad, some of whom have had to return home (News Hour, 2000).

AIDS has become the country's preoccupation. According to Botswana-Harvard (2002), the government of Botswana has responded speedily to the epidemic and committed itself to supporting research efforts and programs aimed at halting this epidemic. On the side of mitigating food insecurity, the government has two main programs in place: one targeting orphans, including those orphaned by HIV/AIDS-related deaths, and one through which terminally ill home-based patients, including those with HIV/AIDS-related illnesses, are provided with a food basket on a monthly basis. However, it is worth noting that this food basket is provided only for the ill person and not for the entire household.

In its short history, the disease has quickly become an economic problem. According to News Hour (2000) government revenue that was originally earmarked for poverty alleviation and rural development has already been diverted to the health care system. At the same time, people are becoming poorer due to expenditures on funerals (News Hour, 2000). This diversion in personal investments and savings can affect agriculture and food security as well as nutritional levels. The impact of the pandemic on agriculture therefore poses a huge challenge to the government and rural development planners. This impact includes reduced food production and incomes, a decline in nutritional food intake and increased food insecurity, for which mitigating strategies must be sought.

1.2 Problem Statement


In accordance with Botswana-Harvard (2003), NACA (2001) stated that the first case of HIV/AIDS reported in Botswana was in 1986. Since then, the country has experienced a wide spread of this pandemic and a sizeable population has been affected to date. In its short history, the disease has moved from being only a health problem to being an economic problem.

As household members are affected and become ill, household income may decline. As indicated in Figure 1, food security may be affected by the reduced income levels. In the worst cases, the sole breadwinner may be affected in such a way so as not to produce any income at all.

In other scenarios, reduced income and care for the sick may lead to some children being removed from school, thus terminating their educational careers prematurely. Time allocated for care of younger children may also be reduced, leading to lower nutrition in their diets.

Although the government of Botswana has put in place programs to cater for the food needs of orphans in general (which include those orphaned by HIV/AIDS-related deaths) and for terminally ill home-based patients (including those with HIV/AIDS-related illnesses), the monthly rations are not meant for the entire household, but only for the orphan and/or the sick person, and therefore may not solve the household's food insecurity problems.

1.3 The Home-Based Care Programme in Botswana



Community home-based care (CHBC) is the care given to sick individuals in their homes. This care is provided by their families who are assisted by skilled social welfare officers and by the community (e.g. volunteers). Originally, the programme targeted only HIV/AIDS patients but later included other terminally ill patients (Botswana Government, 1996).

1.3.1 The rationale for home-based care

Due to the increase in the number of HIV/AIDS patients and the projections for future magnitudes, it was anticipated that the health care system would not be able to both meet the needs of hospital-based patients and keep up with the increasing numbers of HIV/AIDS patients (WHO, 1999; Botswana Government, 1996). The CHBC structure (involving families, Family Welfare Educators (FEWs) and volunteers) was therefore considered appropriate for ensuring more effective use of the health care resources, by reducing the professional health providers' (in hospitals) work-load and overcrowding

of hospital beds. Moreover, the extended family is traditionally regarded as the greatest source of care for persons with long-term illnesses. The CHBC structure therefore provided an alternative to prolonged hospitalisation (Botswana Government, 1996).

1.3.2 The food basket for patients

When first instituted, the food basket was meant to address the special needs of HIV/AIDS patients and to cater for those who were not able to provide for themselves (Botswana Government, 1996)². Later, people with other chronic health problems, such as stroke and cancer patients, were included in the program. The social workers also assessed the status of the dependants or potential orphans, who were also catered for. The food portion for orphans caters for children from infancy to 18 years, taking into consideration the needs of those who may have HIV/AIDS-related ailments³ (Social Welfare Division, Undated). Children are considered to be orphans if both their parents or, in case of single-parent families, their (one) parent has died. That is children were also considered orphans if they had only the late parent taking care of them.

The food basket was developed with the expertise of the Ministry of Health; however, the basket is flexible in terms of content and cost. That is, it can be adjusted according to the doctor's recommendations, but it is nonetheless means tested; the social workers are responsible for identifying and assessing the needs of the patients. The CHBC referral system is outlined in Figure 3.

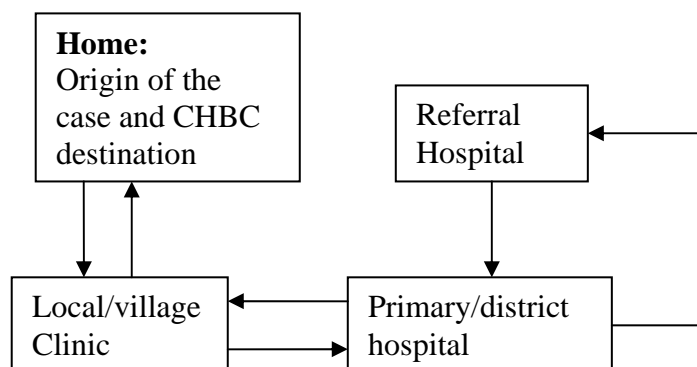


Figure 3: Home Based Care Referral System:

² Copy of the food guide for AIDS patients in home-based care is included in appendix A.

³ Copy of food portion sizes for orphans attached in appendix B

From the referral hospital, the patient returns to the source of the referral for continuation/maintenance of therapy and CHBC. At this point, the doctor's recommendations as well as the results of the social worker's assessment (of the patient's needs) are used to provide the appropriate food basket for the patient. Where the illness is not manageable or deteriorates, the patient is taken back to the hospital (Botswana Government, 1996).

1.4 Rationale for the Study

The assumption underlying this study is that HIV/AIDS probably has a severe impact on household food security. According to Ministry of Finance and Development Planning (undated, cited by NACA, March 2003), government funds spent on HIV/AIDS exceeded the equivalent of 69 million US dollars, with more than 40 million US dollars mobilized from development partners. From how it has affected the government budget to date and from the statistics of deaths in the economically active age group(s), it can be deduced that AIDS is a severe problem, of which the impact on household food security needs to be investigated. The illness due to HIV/AIDS of a breadwinner may lead to loss of income or to reduced labour productivity, and hence reduced purchasing power for the entire household, leading to a lack of household food security.

With the rise of HIV/AIDS in Botswana, some people who used to be food secure may become food insecure. The spread of the pandemic in rural areas, with the resulting changes in labour availability and productivity, is therefore expected to have a negative effect on food production and consumption. As household members are affected and become ill, household income is expected to decrease. Food insecurity will therefore rise, also in rural areas and households. Even in cases where food is available at national levels, food insecurity may remain a problem for specific households due to their low income and/or skewed income distribution.

It is therefore necessary to investigate the extent to which household food insecurity problems are due to the pandemic. Although many efforts have been made at community level, specifically with regard to medical assistance and care for those affected, minimal research has been undertaken to establish the impact of the pandemic

with regard to food insecurity at household level. Most of the research that has been undertaken in Botswana has also been skewed towards establishing the number of people affected, for purposes of medical assistance (NACA, 2001; NACA, 2002; Botswana Government, 2000b; Botswana Government, 2000c).

Rural areas are of special interest due to the following unique characteristics of their communities:

- (i) Most of their livelihoods are derived from agricultural-related activities (FAO, 1997; FAO, 1995; WFS Botswana, 2001);
- (ii) Their main concern (especially for the rural poor), among other needs, is to have a sustainable amount of food (Piot and Pinstup-Andersen, 2002);
- (iii) Even in the absence of HIV/AIDS, rural communities have been faced with problems of malnutrition leading to weakened immune systems, which resulted in susceptibility to tuberculosis, malaria and other infectious diseases (IFPRI, 2002);
- (iv) AIDS education may become more difficult in rural areas, given that poor people generally have a low level of literacy as well as restricted access to information. There may also be poor access to information about public services and therefore poor access to HIV/AIDS information (Kürschner, 2001); and
- (v) Furthermore, rural communities bear the burden and cost of HIV/AIDS when urban workers and migrants return to the rural areas for care when they fall sick (Kürschner, 2001).

While assessing the impact of HIV/AIDS on rural households, it is important to consider some of the features of the rural sector (World Bank, 1996), viz.:

- (i) Rural people combine a range of activities into a livelihood strategy which enables them to provide for themselves and the household. Some individuals may not be direct producers but may be benefiting from the household's output as consumers and would have social roles within the household and the community. HIV/AIDS is expected to affect these interactions. The effects of the infection would initially be felt by the persons who fall ill and by their family or the household to which they belong, then by the community and finally by the nation;
- (ii) Subsistence farming is generally characterized by a very close relationship between the activities of the household (for example, child care and child rearing,

recreation, support relations between adult members, home maintenance, and food processing) and the production of crops and care of animals for household consumption. Subsistence farming relies heavily on labour; therefore the impact of the pandemic may lead to pressures on domestic or family labour; and

- (iii) Rural households and communities interact within and with the wider economy and society (through marketing of produce, purchasing inputs and consumer goods, and entering the labour market for various periods). They rely on labour for production; good health is therefore crucial, given that the nature of the work is to a large extent manual.

1.5 Aims of the Study and General Research Activities

Given the problem described above, the general aims of this study were (i) to investigate the impact of HIV/AIDS on household food security in a rural area of Botswana and (ii) to determine what can be done to improve household food security further, in line with what the government has done to date. The specific aims were to establish the following:

- (i) The impact of HIV/AIDS on household livelihoods;
- (ii) How subsistence agricultural production has been altered due to the pandemic;
- (iii) The impact of HIV/AIDS on household consumption patterns;
- (iv) The effect of HIV/AIDS on school attendance; and
- (v) The effect of HIV/AIDS on time allocated to caring for children 0-4 years old.

In this study, the emphasis was on sources of livelihoods and on the impact of HIV/AIDS on agricultural labour and food production. Bearing in mind that there might be variations from one geographical region in Botswana to the next, depending on culture and available resources, the study adopted a case study approach. Four main research activities were carried out during the course of this study. These activities were the following:

- (i) A review of relevant literature on household food security and livelihoods;

- (ii) Conducting of interviews to establish how households source their food, whether there have been any changes in the ways in which they do this in the period of the study, and whether these changes were caused by HIV/AIDS;
- (iii) An analysis of the results in order to establish the effect of HIV/AIDS on household income and consumption patterns; and
- (iv) An interpretation of the results in terms of theoretical perspectives on food security and livelihoods.

1.6 The Study Area

The study was carried out in Bokaa; a small village in Kgatleng district, Botswana⁴. Bokaa village is about 50km from Gaborone. The Central Statistics Office defines a village as designated as such by the tribal administration, the district administration and the district council and as typified by the presence of a tribal authority, such as a chief or a headman, and having certain facilities, such as schools, clinics or health centers, tribal administration offices, police offices and water reticulation. A rural area, for the purpose of this study, was considered a locality where some of the livelihoods are derived from agricultural related activities.

Kgatlung district, the total area of which comprises 7 600 km² (small in size compared to other districts) is located in the south-eastern part of Botswana, between latitude 23 and 25 degrees south and longitude 26 and 27 degrees east. The northern border is shared with the central district, the western with Kweneng district and the eastern with South Africa (Botswana Government, 1997b) Kgatleng district is predominantly an area of the Kgafela Kgatla tribe, who migrated to the area during the reign of Kgosi Kgamanyane due to Boer demands for land and labour (Morton *et al.* , 1989).

There are no location-specific studies on the impact of HIV/AIDS on household food security in Botswana. This study may therefore be replicated in other parts of the country so as to increase knowledge on the effects of the disease on food security in Botswana.

⁴ Map of the study area is attached in appendix C.

1.7 Selecting the Participating Households

In this study, the Central Statistics Office definition of a household was accepted, whereby a household consists of one or more persons, related or unrelated, living together “under the same roof” in the same dwelling, eating together “from the same pot” and/or making common provisions for food and other living arrangements.

For the purposes of this study, affected households were considered to be those who have/had one of their household members suffering chronic illness and adult death associated with HIV/AIDS-related conditions. Respondents/interviewees for the study were accordingly drawn from households which had at least one of their members registered under the CHBC program to receive a food basket due to HIV/AIDS-related ailments. The plan was to interview heads of households if they were not the ones who were sick or if they were willing to be interviewed even when they were the ones who were sick. The head of household was taken to be any person (male or female) 12 years and above, who is considered by other members of the household as their head (Botswana Government, 2001). Apart from the head of the household, any responsible or senior person who was found to be fit (sober) to participate in the study and was willing to do so was interviewed.

Due to the sensitivity of issues relating to the HIV/AIDS pandemic, a random selection of households in the village would not have yielded a desired sample, as this would have included households which have not been affected by HIV/AIDS. Therefore, a purposive sampling, which is a non-probability sampling procedure, was engaged.

The village CHBC team at Bokaa clinic assisted in identifying the prospective participants and locating the relevant households. This entailed making available the list of people who are registered under the home-based care program, i.e., those who were receiving the food basket or had received the food basket before death, and identifying those who were registered due to HIV/AIDS related ailments. Furthermore, the CHBC team assisted the researcher in identifying the dwellings of the selected patients. During the researcher’s first visit to the dwelling, a member of the CHBC team introduced the researcher to the household members, after which the researcher briefly gave the family the background to the study and finally asked for the family’s consent to participate in the study.

1.8 Data Collection and Analysis

The method of data collection used in this study was individual interviews, through a semi-structured interview schedule⁵. The list of discussion questions aided the collection of qualitative data which was used to assess the impact of HIV/AIDS on the households' income, agricultural production and consumption patterns. To assess household income, the livelihood approach was adopted. In order to capture the entire discussion, a tape recorder was used. From the tape, the information was transcribed and analysed manually. The impact of HIV/AIDS was not directly investigated, as it was not possible to do so because some household members did not attribute the sickness of their family members to HIV/AIDS.

1.9 Limitation of the Study

The contribution that this study makes to the literature on the impact of HIV/AIDS on agriculture and household food security in Botswana is expected to be significant, yet limited, due to the following limitations of the study itself:

- (i) The analysis was not carried out for the entire country but for one small village. This limits the generalizability of the results of this study. Furthermore, the nature of the case study is such that the cases cannot be generalized for the entire country or even for the village from which the cases are drawn.
- (ii) The social stigma associated with HIV/AIDS may make it difficult for respondents/ interviewees to provide information on the affected household members, whereas the need for health workers to maintain confidentiality may make it difficult for them to provide information. To reduce some of these limitations, interviewees were sourced from the country's CHBC programme.
- (iii) Families being researched may behave differently or limit information they provide, knowing that they are being recorded.
- (iv) The study focused on the impact of HIV/AIDS on household livelihoods, food procurement and agricultural production for subsistence purposes only. Also, the analysis was only centred on food security at the household level, with emphasis on access to food determined by the livelihoods (income/purchasing power) and

⁵ Copy of the interview schedule is attached in appendix D.

agricultural production. Access and utilization are equally important in analyzing food security. However, in this study, the nutritional quality or the utilization of the food acquired was not analyzed.

1.10 Sequence of Chapters

CHAPTER TWO: Chapter 2 contains the literature review, an explication of the concepts of food security and rural livelihoods. While literature on food security in Africa will be reviewed, the literature review will focus on studies relating to the impact of HIV/AIDS on household livelihoods and consumption streams as well as inter- and intra-household effects. Data updates were obtained from reports written by different organizations nationally and internationally, which included the Food and Agriculture Organization (FAO) of the United Nations, World Bank, the Ministries of Health, Agriculture and Local Government in Botswana as well as the Ministry of Finance and Development Planning and the Central Statistics Office for demographic data.

CHAPTER THREE: The chapter will outline the methodology used for the study. This will include the justification for the methods used as well as the entire research procedure and the challenges encountered.

CHAPTER FOUR: This chapter will encompass fieldwork results; the analysis and interpretation of the multiple cases will be done across case with individual cases only used as illustration in the final report. A deductive approach will be followed, using the concepts of food security and livelihoods as a theoretical base. The concept(s) will be used with regard to the ability to source food.

CHAPTER FIVE: This chapter will contain the summary, conclusion and recommendations.

KEY WORDS: HIV/AIDS, Livelihoods, Food Security, Household Income and Subsistence farming

CHAPTER 2

LITERATURE REVIEW

“The diet transition in the developing world seems to be accelerating. It seems to be a transition towards an increased burden of chronic disease. It is increasing human costs in terms of mortality and the disease burdens. It is increasing the economic costs in terms of lower productivity ...and by a legacy of low birth weights from the previous generation” Haddad (2003, quoted by Kinsey, 2003: 9)

2.1 Introduction

The aim of this chapter is to review literature with regard to the effect of HIV/AIDS on rural livelihoods for food security purposes. The chapter entails an overview of the concept of food security and that of livelihoods. The chapter furthermore captures literature on the impact of HIV/AIDS on different facets of the household, such as agricultural production, food consumption and asset endowment.

According to the new household economics, the household should be treated as a firm, because it is in the household that decisions are made which ultimately position the household in the community and in the modern economy (Schuh, 2000). Decisions made in the household on intra-household food allocations are also made which lead to individual food security or the opposite even when the household is food secure. The process of household decision making has a bearing on intra-household dynamics and would shed light on why individuals would go hungry in a household with adequate food (Millman and DeRose, 1998).

Schuh (2000) asserts that the household should be given more attention as the focal point for poverty alleviation efforts, seeing that an important part of the human capital in a society is produced in the household, as is development of values for participation in the modern economy. Moreover, decisions regarding nutritional quality are made in the households, i.e. decisions regarding what to purchase or produce and how to prepare the food which in the end contributes to sound health (or not). These decisions are vital in agriculture, as unhealthy people do not have the energy required for physically demanding tasks (Schuh, 2000).

In addition, Piot and Pinstup-Andersen (2002) maintained that one of the main concerns for the rural poor is to obtain a sustainable amount of food; there is therefore a continual struggle against malnutrition, hunger, ill health and worsening levels of poverty. Due to HIV/AIDS, the struggle has become more intense and burdensome among rural people as the pandemic is expected to increase food insecurity and malnutrition. Families are therefore challenged to maintain or diversify their livelihoods (Gillespie and Haddad, 2002). However, it should be noted that even in the absence of HIV/AIDS, rural communities have been faced with malnutrition and the effects thereof (IFPRI, 2002).

2.2 Food Security: A Theoretical Perspective

A review of the literature reveals a general shift in agricultural policy of several countries from the concept of self-sufficiency, where countries made an effort to produce enough food to feed their people, to that of food security. The push towards self-sufficiency was less successful as countries (especially those in the SADC region) were unable to produce enough to feed their people (Van Rooyen and Sigwele, 1998). Food security has therefore become the generally accepted policy strategy, which does not only look at local procurement of food (i.e., at national production) but also recognises that food can be sourced across borders (imports), (Smith, 1998a). Therefore, with reference to Sen (1981), Van Rooyen and Sigwele (1998) asserted that food security should be defined as “the acquirement of sufficient and nutritious quantities of food” (Van Rooyen and Sigwele, 1998:5) and not as an agricultural issue *per se*.

Most of the literature on food security can be traced back to the World Food Crisis of the 1970s, which increased the international trading prices of staple foods. Following this crisis, the United Nations convened the first World Food Summit in 1974. One of the recommendations at the summit was for national and international institutions to manage stock-piles of grains as a means to attain food security (Pongsapich, 2003). As stated by Pongsapich (2003), at another World Food Summit convened in 1996, governments committed to reducing the number of hungry people in the world by 50% by 2015, as a first step towards the goal of “food for all”. At this summit, food security was defined as “food that is available at all times, to which all persons have means of access, that is nutritionally adequate in terms of quantity, quality and variety and is acceptable within the given culture” (Pongsapich, 2003:1; Sutherland *et al* ., 1999).

Similarly, FAO (cited by Akinyele, Undated: 8) defines (in a general form) food security as “a state of affairs where all people at all times have access to safe and nutritious food to maintain a healthy and active life”. That is, if the food consumed is not safe and its consumption does not improve nutrition and health, then its contribution to food security is a non-starter (Kinsey, 2003). This implies that individuals’ nutritional or non-nutritional food use would affect their food security status (Duncan, 1998). Therefore, people may be food insecure through either not being able to grow food themselves or not being able to purchase enough food in the domestic market, resulting in a lack of micronutrients and protein in their diets (FAO, 1995).

McCalla (1999) further expounded on the income component of food security, asserting that people cannot be food secure if they do not have the means (that is, the income) to secure the food required. The implication here is that food should be available in the market for people to purchase; following this, food secure people will not be feasible if physical availability is not addressed. In order to address physical availability, Duncan (1998) pointed out that, at national levels, food availability may be achieved through production and trade as well as through food aid. Similarly, Sigwele (1993) argued that food security strategy combines domestic production and trade to meet the total consumption needs of the country. The dilemma in most developing countries has mainly been one of choosing the strategy best suited to them. However, often the tendency has been to ignore the economic, technical, environmental, social and international effects of the policy strategies. Food availability and access may therefore be hindered by several obstacles; including social problems, lack of economic opportunities, and environmental or political barriers to access (Babu and Tashmatov, 1999; Cohen, 1998 cited by Smith, 1998a).

The issue of food access was also alluded to by Leblanc *et al.* (2003) with reference to Sen (1981) who stated that, food security should be viewed more as an issue of food access; where food production is the means towards food entitlement. However, food security is not just a problem of inadequate food production but of low household incomes as well (Gladwin *et al.*, 2001). That is, incomes and food prices would affect the household’s access to food and as well determine how aggregate food supplies in a country are distributed among the population (Duncan, 1998; Smith, 1998a).

In the same manner, the household economy approach puts more emphasis on analysing food security in terms of access to food than in terms of food production or supply. According to the household economy approach, such analysis of food accessibility

enables one to understand why some people obtain enough to eat while others do not, irrespective of the food supply (i.e., irrespective of national availability). The household economy approach highlights that even in rich countries where there is plenty of food; people would go hungry if they do not have enough money to buy food. In their paper “Poverty Amidst Plenty”, depicting food security in the United States, LeBlanc *et al.* (2003) illustrated that every year there is a small portion of households in the United States who are food insecure, either because they cannot afford enough food or because of episodic disruptions in eating patterns and reduced food intake. From this perspective, food security may be regarded as a problem of poverty and not of production (Schuh, 2000; Gladwin *et al.*, 2001)⁶.

Similarly, availability would include adequate supplies of staples, vegetable and animal protein relishes as well as vitamin supplements. In this regard, Sutherland *et al.* (1999), with reference to Mwape and Russell (1992) and Moore and Vaughan (1992), observed that efforts of small-holders in Zambia to shift from subsistence farming to cash-oriented production enterprises have contributed to food insecurity: child malnourishment increased as the households’ diets became monotonous, compared to the varied diet of traditional subsistence farmers.

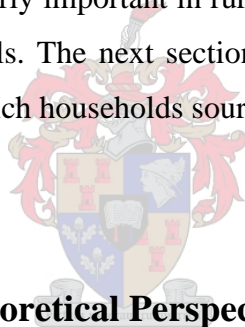
In addition, Van Rooyen and Sigwele (2001) asserted that food security should be analysed in terms of the ability to purchase as well as to produce own food. A household would therefore be regarded as food secure if its members are either able to produce their own food or purchase food (available in the market) or both.

In striving to achieve food security, rural households combine labour, land and other resources for food production with gathering and in-kind transfers (Smith, 1998b). Household income sources are therefore used to purchase those food items the household cannot produce or gather. Moreover, their food security status would also depend on availability of assets that can be turned into cash easily when necessary (de Waal, 1989, cited by Sutherland *et al.*, 1999). After his investigation of determinants of household welfare in Cote d’Ivoire, Glewwe (1991) pointed out that even though there may be no explanation as to why households have accumulated particular assets, past decisions to accumulate human and physical capital may provide tentative answers as to why some households are better off than others (Glewwe, 1991).

⁶ In analysing the food problem, Cathie and Dick (1987) also pointed out that it is a poverty problem which manifests itself in the inability of the poor to have a subsistence means, due to unemployment and the subsequent lack of purchasing power and access to available food supplies.

Furthermore, family and community networks are contributory factors to a household's food security status. Barnett and Rugalema (2001) argued that households can be said to be food secure when there is a balance between the food availability, stability of food supplies, access to food and the quality of the food (i.e., nutritional quality).

From this section it is clear that household food security is a function of several interrelated factors. Although some authors emphasise other factors than others such as access than production, it is clear that all these aspects are of paramount importance to household food security. Household food security in Botswana is affected by several factors such as indicated in the literature. There is a challenge at national level to ensure physical availability of food; this could either be through sourcing food across boarder or through local production. Where food is available in the market, literature points to the challenge of food access among some households, and therefore the need for income without which they would not be able to. Assuming that there is sufficient food at national level in Botswana, households may still faced with the inability to access food. The issue of access is particularly important in rural households which are faced among others by narrow income levels. The next section reviews literature on livelihoods as they are the means through which households source their food.



2.3 Livelihoods: A Theoretical Perspective

In order to investigate the impact of HIV/AIDS on households' food security, it is important to look at how the pandemic has affected rural livelihoods. Livelihoods are directly linked to food security as they are the means by which households source their food (May, 1996). Availability of income from jobs may also be viewed as the means for accessing food, the absence of which would contribute to food insecurity. Drinkwater (2003) contended that in order to know the status of the household's food security, it is critical to understand the status of the household and individual assets.

Although farming households may obtain their food through their own farming activities, Lipton *et al.* (1996) observed that farmers and farm workers essentially work seasonally, therefore households engage in non-farm work and/or seasonal migration. Therefore, a livelihood is defined as "a 200 day working year, sufficient to produce enough income to keep a worker (plus dependants) out of poverty" (Lipton *et al.*, 1996: ii). Similarly, Sutherland (1999), with reference to the works of Frankenberger (1992)

and Sen (1981), pointed out that household food security is not merely a function of household production but is linked to the overall livelihood strategies of the households. Within the livelihood packages, the household may have a dominant income source, and agriculture may not be this dominant source or the only source of income (Gladwin *et al* ., 2001). On the same note, the Brundtland Commission's Advisory Panel on Food, Agriculture, Forestry and Environment, cited by Chambers (1988), affirmed that livelihood should be defined as stocks and flows of food and cash sufficient to meet basic needs.

Livelihood may be expanded to incorporate security and sustainability, thereby becoming sustainable livelihood security, where security is defined as “secure ownership of, or access to, resources and income earning activities, including reserves and assets to offset risk, ease shocks and meet contingencies” (Chambers, 1988: 9), while sustainable refers to “maintenance or enhancement of resource productivity on a long term basis” (Chambers, 1988: 9)⁷.

On a similar note, May (1996) with reference to Lipton (1993) and Maxwell and Smith (1992), stated that “rural households engage in a wide range of activities in order to generate a livelihood with which they are able to achieve food security” (May, 1996: 4). May (1996) pointed to the necessity of analysing the asset base of the household so as to capture the factors contributing to persistent livelihood insecurity. On such an analysis, land becomes a critical component of the livelihood strategy of rural people, where ownership of land may be viewed as a basis for an improved standard of living in rural communities. Cross *et al* . (1996) pointed out that livelihoods have been the central theme in South Africa's land reform.

Ellis (2000) presented a broader definition of livelihood, stating that “a livelihood comprises the assets (natural, physical, human, financial and social capital), the activities and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household” (Ellis, 2000:10). As stated by Ellis (2000), the term ‘livelihood’ seems to offer a more complete picture of the complexities of survival in low-income countries than do terms such as ‘subsistence’, ‘income’ and ‘employment’, which were formerly considered to be adequate.

⁷ Chambers (1988) pointed out that sustainable livelihood thinking focuses on enabling the poor to achieve a livelihood that looks beyond eating from “hand to mouth” in terms of consumption but has the ability to accumulate savings. This he also indicates would enable them to adapt to changes, meet contingencies and enhance long-term productivity.

“Diversification of livelihoods recognises that people survive by doing many different things, rather than just one thing or a few things” (Ellis, 2000: ix). This essentially means that people do not obtain their entire income from one source or keep their wealth in the form of one asset; rather, they diversify their livelihoods (Barrett *et al.*, 2001).

2.3.1 Diversified livelihoods: The causal origins

According to Croxton (2002), analysis of the rural economy should look further than the farm gate and should recognize the role of the nonfarm economy in poverty reduction. However, the historical tendency has been to focus on the farm sector and not necessarily on the livelihood needs of the rural poor (Croxton, 2002). Croxton (2002) also pointed out that most of the poor remain in agriculture due to lack of alternative options. He furthermore states that even where there is diversification; it is limited to petty trading and distress migration.

Literature on diversification exhibits a number of factors influencing the decision of the farming family to engage in non-farm activities, which further determine the level of income the family would earn from sources other than agriculture. Reardon *et al.* (1998) pointed to the following two factors as contributory to the family’s decision as to whether to engage in nonfarm rural activities:

- (i) The incentive for the family in terms of yield and the risks when carrying out the farming activities; and
- (ii) The capacity of the family to undertake the nonfarm activities, which is determined by their level of education, income, access to assets and credit, among other things.

The same viewpoint is held by de Janvry and Sadoulet (2001) who observed, using data from Latin America, that the age and educational level of the head of the household, land size, livestock, distance to the market and infrastructure have proved to be significant in determining the level of nonfarm income (and thus the income from non-farming activities).

Income from agricultural activities tends to be seasonal with time-varying returns to labour and land (Barrett *et al.* , 2001). Therefore, its wage earning employment may appear less attractive when compared to that of nonfarm employment. The latter also offers options not offered by farm employment, such as professional development. As a result, nonfarm activities have been used to smooth the fluctuation brought by the seasonality of agricultural income as well as to improve or narrow down the difference in quality of life between the rural and urban dwellers (Berdegue *et al.*, 2001). In addition, farm households have diversified into nonfarm activities due to market failures (Barrett *et al.*, 2001).

According to Reardon *et al.* (1998), case studies in Latin America reflect that nonfarm income and employment accounts for 40% and 25% of rural totals respectively, while in Africa and Asia, non-farm income accounts for 42% and 32%. Similarly, Escobal (2001) observed a high non-farm income share, namely 50%, in rural Peru. Furthermore, White and Robinson (2000) reported that FAO studies in East Africa have established a dependency of households on non-farm income, where more than 40% of the households were observed to supplement their income with non-farm activities.

Another factor influencing participation in the rural non-farm sector is lack of land, landlessness or near-landlessness. According to Mukhopadhyay (1985, cited by Kirsten, 1995), prevalence of secondary non-farm activities (such as manufacturing, processing and construction) is mainly due to landlessness. Therefore farmers use non-farm activities and farm wage employment as compensatory measures for insufficient land, cattle and farm capital (Escobal, 2001; Gladwin *et al.* , 2001).

Literature reveals that where land is available, rural households in developing countries generally have farming as their predominant source of income. Non-farm income therefore becomes more important in cases where landless peasants constitute a higher percentage of the rural population (Cobertt, 1997). Agricultural land shortages may also be aggravated by the conversion of agricultural land to non-farm uses. According to Cobertt, the market economy favours land uses of which returns are higher than that of agriculture. Barrett *et al.* (2001) established a positive correlation between non-farm activity and assets such as land and livestock, which may suggest that those without these assets may face a bigger challenge in the non-farming economy.

Education places better educated household members at a comparative advantage in the non-farm job market. As households allocate time to optimise income the better

educated act accordingly; this is observed in their preference for non-farm activities such as handicrafts, repairing, renting equipments and commerce (Escobal, 2001). However, the success of these jobs relies heavily on access to roads and electricity, availability of which makes it easier for them to engage in the non-farm wage employment. Moreover, missing markets (in particular, missing credit markets) may hinder diversification, as smallholders may not be able to purchase the necessary equipment to enable them to diversify even though the options considered may be more profitable. There may also be some barriers to entry into the market (Barrett, 1997).

One feature of non-farm rural income worth looking at, though it is not directly a reason for participating in non-farm activities, is its role in reducing income inequality. Reardon *et al* . (2000) discussed some empirical assumptions, one of which is the assumption that income created through non-farming activity has the capacity to influence rural income distribution. According to Reardon *et al* . (2000), non-farm employment does not necessarily reduce rural income inequality; what rather influences this income distribution is the influence of individual asset holdings and of public goods and services on non-farm employment. For example, well-paying non-farm employment may be a result of education or skill, the distribution of which will influence income distribution.

In addition, Ellis (2000) stated that “families that are vulnerable to failure do not put all their eggs in one basket” (Ellis, 2000:60). This means that households would look at their vulnerability to possible problems in one activity or the other. Looking to agriculture, for example, households that want to avoid the risk involved in agricultural activities would not put all their labour hours into agriculture but would rather diversify. According to Ellis (2000), the households’ decision to distribute labour hours across different activities is determined by the risk discounted, marginal returns to labour for the different activities.

2.3.2 The link between HIV/AIDS and livelihood diversification

HIV/AIDS impacts household livelihoods and food security directly and negatively, with both short-term and long-term effects. According to the Food Economy Group (FEG) (2002), short-term effects may be through loss of income-earning labour, loss of household assets, increased expenditure on health care as well as expenditure on

funerals, whereas long-term effects are more in the line of magnifying the existing food insecurity problems and structural changes⁸.

With the increase in HIV/AIDS and its impact on rural livelihoods, reliance on the non-farm income activities appears to be a practical alternative for the affected and afflicted households (FAO, 1995; FAO, 1998). Nonetheless, the ability of a household to generate these diverse sources of income and the scale thereof depend on its resource capacity as well as on the flexibility of the existing livelihoods. According to White and Robinson (2000), with reference to FAO (1995), households which are involved in several income-generating activities are more able to cushion the impact of an HIV/AIDS-related shock.

Barrett *et al.* (2001) pointed out, with reference to Smith *et al.* (1999), that HIV/AIDS robs the rural communities of young skilled adults as well as scarce public funds. These, they concluded, would necessitate doubling of educational and health efforts that are already deficient in rural areas. Jefferis (1997) further pointed out that poor health prohibits individuals from taking advantage of income-generating opportunities.

2.4 Impact of HIV/AIDS on Rural Household Food and Nutrition Security

This section discusses the impact of HIV/AIDS on rural household food security. The discussion of food security issues cannot be disassociated to those of nutrition; therefore the impact of HIV/AIDS will be reviewed in relation to both food security and nutrition.

“The HIV/AIDS pandemic in Sub-Saharan Africa has become increasingly intertwined with issues of food security and nutrition. On the one hand, malnutrition and food insecurity may force households to adopt livelihoods that increase the risk of HIV transmission, such as migration to find work. On the other hand, HIV/AIDS may precipitate or exacerbate malnutrition and food insecurity” (Gillespie and Haddad, 2002: 1)

⁸ Possible structural changes may include the breakdown of rural entitlement and sharing systems, and inter-generational poverty due to a lack of transfer of generational agricultural knowledge (FEG, 2002).

Barnett and Blaikie (1992, cited by White and Robinson, 2000) presented a comprehensive explication of the impact of HIV/AIDS on households in three categories. They define an HIV/AIDS-affected household as one whose resources have been diverted (i) to supporting another household with an ill member, or (ii) through the death of an extended family member who was contributing resources to the household and/or (iii) through receiving orphans. Where a member of the household is sick or has died due to HIV/AIDS, the household is regarded as HIV/AIDS-afflicted. However, Barnett and Blaikie (1992, cited by White and Robinson, 2000) pointed out that, among these households, there are those rare ones that are neither affected nor afflicted.

Using data from Kenya, Boudreau and Holleman (undated, cited by FEG, 2002), impressed that aggregate figures hide the severity of the problem for specific regions and communities. They contended that national figures reflect a much lower prevalence rate while many districts in the country have an infection rate higher than 30% (approximately three times the national average). According to Boudreau and Holleman, while percentage prevalence rates in Kenya reflect higher prevalence for urban areas than rural areas, strengthening the general view that rural areas are far from the epicentre of the problem; absolute figures show that there are more people living with HIV/AIDS in the rural areas (1.44 million, approximately 3 times the number affected in urban areas). These high infection rates with the lengthy existing nature of the epidemic have been observed to have far-reaching implications for the welfare of households and communities as well as regional economies. However, a survey of randomly selected households in the Indian state of Tamil Nadu reflected a higher HIV/AIDS prevalence rate of 2.1 % in the rural areas as compared to the 0.7% in the urban areas (FAO, undated).

In the same manner, Piot and Pinstup-Andersen (2002) stated that “when you ask people living with AIDS in the rural communities of the developing world what their highest priority is, very often their answer is food. Not care, not drugs for medical treatment, not relief from stigma, but food” (Piot and Pinstup-Andersen, 2002:3). Piot and Pinstup-Andersen (2002) further noted an overlap in the malnutrition maps and HIV/AIDS prevalence maps.

In their review of pathways through which HIV/AIDS affects nutrition, food security and livelihoods of households dependent on agriculture, Gillespie *et al.* (2001) established the significance of agriculture and natural resources on the livelihoods of such households and communities. According to Gillespie *et al.* (2001), HIV/AIDS

impacts the nutritional status of these households through its impact on preconditions of good nutrition, such as acceleration of a vicious circle of inadequate dietary intake and disease as well as diminishing the capacity to ensure essential food. Finally, this impact relates mainly to labour losses and institutional weakening with regard to agriculture. As observed by Gillespie *et al.* (2001), nutritional support has a significant potential in postponing HIV/AIDS-related illnesses and therefore prolonging life.

On the other hand, most poor households draw their livelihoods from other means than agricultural production, mainly because of the risk involved in agricultural production as well as lack of land, the latter commonly being a hindrance for poor households. In the study “Food economy analysis & the effect of HIV/AIDS on food security at the household level”, FEWSNET (2002) established that more than 40% of poor households’ food needs at Siavonga valley, Zambia were met by purchases covered by income from petty trade and piece jobs. These critical household survival techniques are regrettably affected as and when the household is afflicted with HIV/AIDS.

Labour migration literature reflects that the employment characteristics and quality of life of female partners often suffer due to long-distance family migration (Ochieng, 1990 cited by Smith, 1998b; Letuka *et al.*, 1997). Women become more susceptible to HIV/AIDS as their migrant partners engage in sexual relationships at their place of work. With increased male rural-urban migration and worsening economic situations in most rural areas, the role of women as caretakers of the rural families also increases (FAO, 1997). Literature indicates that women’s role as caregivers becomes weighty as their ill spouses return home and as they consequently lose their partners.

According to Barnett and Rugalema (2001), HIV/AIDS morbidity and mortality incapacitates the household’s ability to produce and purchase food. That is, as HIV/AIDS increases the expenditure requirements, households not only reduce their food purchases but also reduce expenditure on agricultural inputs and school fees, which impacts negatively on current as well as future food security and livelihoods. Other challenges include taking care of orphans, as the host families usually have problems in meeting their own food requirements⁹.

However, with reference to the works of Over (1998), White and Robinson (2000) substantiated that the effect of an AIDS-related death on a household has a similar impact as another death which is not AIDS-related. Therefore, in exploring the linkages

⁹ It is however not clear at “what point does the pot become too small to share, and how communities deal with these increasing demands” (FEG, 2002:5)

between HIV/AIDS and food insecurity, FEG (2002) pointed to the variations of HIV/AIDS on food security over time. They noted that the spatial variability of its impact is brought about by the differentiated responses of households and communities towards mitigating the negative effects of the pandemic, and therefore suggested that a better understanding of how HIV/AIDS behaves in different economic settings and what these differences mean would enable better implementation of programs and policies aimed at preventing food- and non-food-related effects.

2.4.1 Impact of HIV/AIDS on agricultural labour

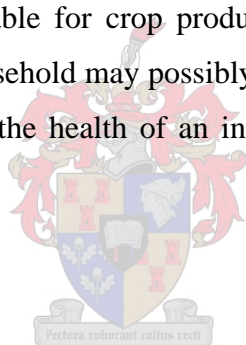
Studies on HIV/AIDS have reflected both quantitative and qualitative impacts of HIV/AIDS on different facets of the rural community, such as labour.

Adult morbidity and consequently mortality may lead to reallocation and/or withdrawal of labour, therefore resulting in numerous changes and shifts within and outside the household. HIV/AIDS not only strips the labour force of the sick person but also of those who care for the sick person. Engh *et al.* (2000) point to the potential of HIV/AIDS in reducing the household's workforce and skill capacity as people die and others spend time attending funerals and mourning as well as caring for sick household members. Engh *et al.* (2000) further advocate labour saving technologies, such as farming with livestock species which require less labour, and efficient use of farm organic waste. Gillespie (1989) supported this view and stated that HIV/AIDS may have an indirect effect on a temporary basis, as some adults may withdraw their labour so as to care for the sick. Agricultural skills are also not conserved as children lose their parents before they learn basic agricultural skills and before they receive nutrition and health education, while availability of labour and wage labour for agriculture may also decline (Kürschner, 2001).

Gillespie (1989) assessed the potential impact of AIDS on farming systems in Rwanda, with regard to the sensitivity of the farming system to the loss of labour. As established by Gillespie, a male death would greatly affect the household in areas on the volcanic highlands where land is scarce, where there are more pronounced gender differences and where males have a high workload. Similarly, in areas where females have more labour time, male death would not be as devastating. Nonetheless, a female death in these areas is expected to be more severe on children (Gillespie, 1989).

The effect of HIV/AIDS on farming systems has also been observed by Barnett *et al.* (1995). Using data from Uganda, Tanzania and Zambia, Barnett *et al.* (1995) observed that the loss of a male family member in these three countries was significant, especially in terms of management of household economies as well as marketing of agricultural produce. In the absence of the men, adoption of labour-economising responses, such as the use of bicycles by women to enhance marketing capabilities may be necessary; however, the adoption of such practices may in some cases be hindered by cultural beliefs, such as that woman should not ride bicycles, even when they have bicycles at their disposal (Barnett *et al.*, 1995).

The loss of agricultural labour and income has also been observed to contribute to a decrease in households' access to nutritious food, as families resort to less labour-intensive crops (with less nutritional value), such as root crops (SADC/FANR/VAC, 2003, with reference to Drime, 2002 and Ngwira *et al.*, 2001). The death of the ill family member does not necessarily mean that labour which was used to care for the ill member would now be available for crop production. Wilson (2000) stated that the remaining members of the household may possibly have no energy to farm or income to hire more help, and also that the health of an infected wife may deteriorate after the death of her ill husband.



2.4.2 Food consumption

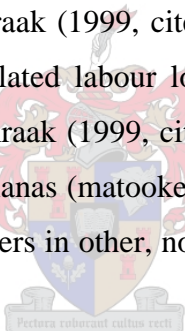
The literature portrays an imbalance in the expenditure patterns of individual incomes between men and women in relation to food purchases. According to Haddad (1999, cited by Mutangadura, 2001), women spend more of their income on securing food for the entire household while men spend more on personal goods. Therefore, in order to be food-secure, women in rural area recognise that they need to have multiple livelihood strategies (Gladwin *et al.*, 2001).

In the study, “Women and aids in southern Africa; the case of Zimbabwe and its political implications”, Mutangadura (2001) pointed out that HIV/AIDS has contributed to a reduction in the consumption level of several food items in Zimbabwean households. However, she maintained that part of the reduction in consumption levels could be attributed to inflationary food price variations.

In an attempt to create cash income to pay for health services and food, a vicious circle becomes prominent as households sell food-producing assets such as goats and chickens. As a result, the household will eat less; as Wilson (2000: 39) stated, “when cash is lacking, households simply eat less”. This reduction in consumption levels has been considered as an option available to the household in attempt to balance the change in their dependency ratio caused by the death of a previously income-generating household member. According to Kürschner (2001), food consumption has been found to drop by about 40% in homes afflicted by HIV/AIDS.

Similarly, Over (1998, cited by White and Robinson, 2000) observed a drop in per-capita consumption due to an adult death in a household. Using data from Kagera, Tanzania, Over (1998) established that the cost of an adult death from AIDS-related illnesses yielded similar results in death due to other illnesses. In both scenarios, per capita food consumption was reduced by 15% in the poorest households.

Consumption levels have also been observed to drop due to household-external causes, such as inter-regional effects. Kraak (1999, cited by Wilson, 2000) provided evidence from Uganda that HIV/AIDS-related labour loss leads to food shortages within and outside a region. According to Kraak (1999, cited by Wilson, 2000), the production of the traditionally grown green bananas (matooke) declined due to AIDS-related illnesses and, as a result, matooke consumers in other, non-matooke producing regions were also affected by the shortage.



As pointed out earlier, HIV/AIDS-afflicted households evidently replace the labour-intensive but nutritional crops with fast-maturing and less nutritious root crops. These root crops regrettably become the main food consumed by the household, leading to malnutrition among children, with malnutrition and chronic food insecurity further aggravated by the lack of cash to purchase other nutritional food, such as meat and vegetables, due to low farm income (Barnett and Rugalema, 2001).

2.4.3 AIDS orphans and inter-household effects

Underlying the loss of an adult to HIV/AIDS is the impact on the remaining children. Orphaning is described by Wilson (2000) as a series of events, the conclusion of which is the death of the parent. As a result, the children are forced to adapt to an environment in which they lack parental love and are often un-socialised and uneducated. Associated

with the death is the loss of basic life skills for these children, which are buried with their parents.

“The gravest long-term impact of the HIV/AIDS crisis is that on children”

(Wilson, 2000: 37)

Literature points to the extended family as a major source of care for the surviving orphans. Similarly, social support structures, such as inter-household relations, the community, friends, relatives and neighbours, have a significant role in the recovery of a family following an AIDS-related illness and/or death. These structures, though informal, evidently provide social, economical, psychological and emotional support for the afflicted families (Mutangadura, 2001). With reference to the work of Sauerborn *et al.* (1996) in rural Burkina Faso and of Barnett and Blaike (1992) in Uganda, Drinkwater (1993) and Mutangadura (2001) maintained that households that face HIV/AIDS-prompted income stresses send their children to relatives who takes responsibility to finance children's food requirements and provide school fees.

Inter-household effects may be experienced as orphans are received by their grandparents, examples of which have been observed in rural households where grandparents receive orphans as their urban-based children die and, consequently, rural elderly people would face financial constraints as they receive these orphans accompanied by the loss of remitted money (Barnett *et al.*, 1995).

Barnett and Rugalema (2001) contended that the external support systems, such as the extended family, are not as firm as they were in the past. With the rise in HIV/AIDS-related illnesses and deaths, and with the collapse of these external support structures, the remaining widows and orphans become more vulnerable in the absence of these support structures which in the past guaranteed inter-household food transfers to buffer needy families. It is therefore more difficult for widows, orphans and the elderly to depend on the extended family for support (Barnett and Rugalema, 2001). In addition, in cases for which gender differentials are evident in relation to accessibility of land, the loss of a male partner may denude the widow and her orphan(s) this productive resource. Furthermore, these orphaned children may naturally be far from adulthood, meaning that long-term resources are required in order to meet their financial and other needs (Wilson, 2000).

2.4.4 Intra-household food allocations

Literature points to the significance of intra-household food allocations in the food security status of individual household members as the allocations would result in the members' food insecurity or otherwise.

Haddad *et al.* (1996) reviewed literature from several countries in order to establish among other things where there are intra-household differences in food allocation. As observed by Haddad *et al.* (1996) there is an interesting role played by the direction of bride price in relation to gender differentials in food allocation. Studies in India where females pay the bride price indicate a bias towards male children while in Africa where males pay the bride price the bias was towards the female children (Haddad *et al.*, 1996). They asserted that parents may have preferences to invest in either a male or female child depending on anticipated returns in such an investment. Therefore the biases would differ according to social classes, age group and state (de Rose *et al.*, 1998).

Contrary to most of the studies in Africa reviewed by Haddad *et al.* (1996), Nazli and Hamid (1999) pointed out with evidence from Pakistan that sons were generally preferred and regarded as future family securities as well as being torch bearers for the family name, while investing in a daughter was considered as investing for another family, that is one which will take the girl in marriage. As a result girls and women end up with limited access to food. Millman and de Rose (1998) termed this bias *discrimination* and maintained that it resulted from attaching more value on some members of the household than other.

2.4.5 AIDS shock on asset endowment

2.4.5.1 Livestock production

Livestock contributes significantly to the food and nutrition security of a household. However, literature indicates that the effects of HIV/AIDS on rural labour have evidently filtered through to the livestock sector which is usually the main input for food production¹⁰. Assets such as livestock can be readily converted into cash;

¹⁰ "The important contribution of livestock through draught power, manure, food security bank, meat and milk products is compromised when large numbers are diverted to support increasing costs of sickness

households therefore accumulate these as an insurance strategy. According to Barnett and Rugalema (2001), with HIV/AIDS, households are forced to drain these storehouses.

Beyond this depletion of assets, households are left impoverished as well as vulnerable in the long run. Engh *et al.* (2000) established through a literature review and unstructured informal interviews the effect of HIV/AIDS on the livestock sector in Namibia. From their study, which focused on the two rural areas of Oshana and Caprivi, Engh *et al.* (2000) established that direct costs associated with sicknesses and deaths were covered through livestock sales followed by crop sales. Also, cattle are lost due to slaughtering to feed mourners during funerals. Engh *et al.* (2000), however, pointed out that in regions where provision of meat at funerals traditionally is a taboo, such as the Caprivi region (even although it is lately accommodated here), funerals may of course have less of an impact on the livestock, compared to areas where provision of meat (depending on the number owned by the family) to mourners during a funeral is a cultural norm. Barnett *et al.* (1995) maintained that livestock production may dwindle due to the loss of labour resulting in lower levels of care for the remaining animals. Furthermore, poor management may lead to livestock death which will also strip the household of fertilizing manure and milk as well as savings (Barnett and Rugalema, 2001).

In some cases, however, livestock production has been seen to increase, as some AIDS-afflicted households choose livestock production over crop production. Livestock production has, for instance, been seen as an alternative to crop production where reduced availability of labour pose problems for successful crop management as well as where soil quality is poor. In such cases, households opt to engage in less labour-intensive activities, such as raising small stock (White and Robinson, 2000).

2.4.5.2 Financial assets

Literature on the effects of HIV/AIDS on the financial base of households reflects the diverse nature of the loss of financial assets, which includes income loss from paid employment and from cash crop sales in times when labour is diverted to caring for the

and death” (Engh *et al.*., 2000:5). Trimming down the draught power further reduces the area cultivated and finally hits the livelihood of the household.

sick. Similarly, income (money) may be “lost” to medical expenses as well as to funeral costs when the sick person dies (White and Robinson, 2000).

With labour losses, households (more so poor households) may initially opt for intra-household re-allocation of labour. In the event that reallocation becomes insufficient and therefore necessitating the hiring of wage labour, financial assets would be drained further¹¹. A study in Côte d’Ivoire revealed that HIV/AIDS-afflicted households tend to hire more labour to substitute for reduced household labour (FAO, 1997 cited by White and Robinson, 2000).

In the midst of these financial constraints is the need to educate children. Lack of financial resources has been cited as one of the reasons for children not attending school. Mutangadura (2001) established, using data from Zimbabwe that most of the children not attending school were a consequence of a female adult death in the family. However, the proportion of children not attending school was observed to be higher among the secondary school age group. This non-attendance not only reduces the children’s chances of securing formal employment but will further be a national constraint adding to high levels of unemployment¹².

With the rise in number of HIV/AIDS affected people in Botswana, households are expected to face some or most of the challenges faced by other households as reflected in the literature in this section. Rural households in particular are expected to face both production and income effects. In this study the impact of HIV/AIDS on rural households is explored in relation to its impact on the household’s food security. Factors which contribute to rural household food security such as agricultural production labour, asset endowment and inter-household relations may be strained by the effect of the pandemic.

¹¹ Hiring labour is the first option for relatively rich households.

¹² “Church support, burial societies, rotating and savings clubs and women’s groups rated as effective types of informal support mechanism to morbidity and mortality related income shocks” (Mutangadura, 2001:7).

2.5 The Link between Poverty and Vulnerability to HIV/AIDS

Literature indicates some level of correlation between poverty and susceptibility to HIV infection, such that widespread poverty in rural areas has been observed to contribute to poor nutrition and poor health which in turn result in vulnerability to HIV/AIDS infection. According to Barnett *et al.* (1995) over and above specifically medical aspects of HIV/AIDS, there is growing impoverishment of households due to HIV/AIDS. As stated by Kürschner (2001), poverty hinders the family's ability to protect its members from premature death caused by lack of necessary dietary intake. Such a lack results in the undernourished people having a weakened immune system and being more susceptible to sexually transmitted diseases (STDs), including HIV/AIDS.

There appears, however, to be a two way causal relationship between poverty and contracting the HIV/AIDS virus. According to Barnett *et al.* (1995) poverty may lead to malnutrition which increases susceptibility to HIV/AIDS. On the other hand, poverty may lead to households' involvement in activities that heighten the risk of contracting the virus. LeBlanc *et al.* (2003) pointed out, with reference to Anderson (1990), that a family's food security status should be reached through socially accepted means and not through scavenging, stealing or any other unacceptable means. Nonetheless, literature reveals pockets of socially unacceptable means of acquiring food, for example exchanging sex for money or food¹³.

2.5.1 The link between HIV/AIDS infection, development projects and migration

In the literature, it is demonstrated that development projects have over time been used as a strategy for poverty alleviation in rural areas, by creating non-farm employment opportunities. However, it has been established through case studies that some of these projects have proved to exacerbate the spread of the pandemic with economic circumstances leading to practices which aggravate the risk of contracting the virus. Drawing livelihoods from migration, for example, has been observed to have the potential to increase chances of contracting HIV. According to Gillespie and Haddad (2002), informal studies in the Limpopo basin of Mozambique demonstrated that the

¹³ Food insecurity is therefore; limited or uncertain ability to acquire food, or nutritionally adequate and safe food in socially acceptable ways (Anderson, 1990) reported by LeBlanc *et al.* (2003)

tradition of migration (to South Africa) due to poverty has contributed to HIV/AIDS vulnerability, whereby up to 80% of the pregnant women in the area are HIV positive.

Similarly, a case study on the Akosombo River Dam (also known as Volta River Dam) in Ghana revealed how a seemingly successful development project ended up making the local people vulnerable to HIV and contributing to the spread of the pandemic (Topouzis and du Guerny, 1999). As observed by Topouzis and du Guerny (1999), the construction of the dam required land clearing which led to displacement of many farmers. The loss of arable land drove the men to non-farm employment on the construction site and later to fishing. For the women farmers, the situation stripped them of the only means of support for their families, as a result many resorted to prostitution.

While the dam was completed before HIV/AIDS was prevalent in Ghana, the repercussions of the situation are revealed in a similar trend followed by the illegitimate daughters who were born at the time. As reflected in the case study, illegitimate children in the Krobo ethnic group are not entitled to an inheritance. Therefore, Krobo daughters born during the construction era struggle for survival and consequentially, like their mothers, they used prostitution as a means of survival. By 1995, this region had HIV infection rates between five to ten times higher than the average prevalence rate in Ghana (Topouzis and du Guerny, 1999).

Multi-sexual partnering may also be attributed to relative poverty caused by poor returns to agricultural production systems and lack of income opportunities which could be derived from off-farm and non-farm activities. In addition, polygamous marriages are a contributory factor to multi-partner sexual relationships (Engh *et al.*, 2000). Sexual services (such as prostitution) have furthermore been viewed by some as a lucrative source of money or other assistance. Cross-border implications of the pandemic are evident in the Siavonga region of Zambia, where poverty has caused female traders of milk and eggs at the Zimbabwean border to consider prostitution a more lucrative business (FEG, 2002).

There are, however, also case studies which contrast this evidence, showing that development projects have contributed positively to poverty alleviation instead of to the spread of HIV/AIDS¹⁴. The case of the proposed Chad-Cameroon oil pipeline project is a good example, where an assessment of the potential for an adverse impact on HIV/AIDS and other STDs was undertaken and likewise the project showed potential

¹⁴ According to FEG (2002), understanding circumstances which influence households to engage in activities that put them at a higher risk of contracting the virus is critical in planning and implementing prevention efforts.

risk of exacerbating the HIV pandemic. Consequently, its implementation would integrate some prevention efforts (Topouzis and du Guerny, 1999).

AIDS is referred to by Kürschner (2001) as a cause for deepening poverty. While it has the capacity to “deepen” poverty levels, AIDS is expected to be more severe on the livelihoods of poor people as compared to the better-off. Kürschner (2001) therefore maintained that poverty levels will determine the extent to which a household is affected by HIV/AIDS. While those who are better-off may be able to cushion short-term negative effects, the long-term effects may be significant for both the poor and the better-off. On the other hand, the effects on the better-off may subsequently trickle down to the poor households whose sources of livelihood are drawn from the rich households. This trend has been observed in the Makueni district, Kenya where more than 50% of households work for the financially best-off 20-30%; that is, “When one richer household is afflicted with HIV/AIDS it is likely to have a direct bearing on the income and food of at least 3 poorer households” (FEG, 2002:5).

2.6 Food Security in Botswana (National)

2.6.1 Climatic and soil conditions

Botswana is a land-locked country with a total land area of 582 000km²¹⁵. The greater part of the country is desert or semi-arid (Cathie and Dick, 1987). The country is also characterised by low annual rainfall and poor monthly distribution (WFS Botswana, 2001; Ohiokpehai and Keboneilwe, 2000). Under these adverse soil and climatic conditions, agricultural production has been limited to livestock farming as compared to crop production (Cathie and Dick, 1987). According to Jefferis (1997), limited opportunities and the inability of the agricultural sector to provide cash income and income in-kind (i.e., agricultural produce) for Botswana have been some of the contributory factors to Botswana’s unemployment and poverty¹⁶ problems. The same

¹⁵ This surface area is about sixty (58 173 000) million hectares (UN Statistics, 1990) of which only 5% is considered to be suitable for crop production (WFS Botswana, 2001).

¹⁶ Poverty is most serious when the conditions which give rise to it are reproduced from one generation to the next: “one important aspect of poverty alleviation is to ensure that those who are born into poverty have a chance of economic and social mobility out of poverty” (Jefferis, 1997: 476). An impediment in

view is expressed in the World Food Summit Botswana progress report (WFS Botswana, 2001).

2.6.2 From food self-sufficiency to food security

The agricultural sector has historically not been able to produce sufficient food for the country, leading to dependency on food imports. Cathie and Dick (1987) asserted that constant dependence on food imports has been evident since independence. Following this dependency on food imports, insufficient food production as well as inadequate nutritional status, the government of Botswana in 1985 adopted a national food policy strategy of which the objectives were to promote domestic food production in order to attain self-sufficiency¹⁷ in the main staple crops (viz. sorghum and maize) (Mazonde, 1993). Efforts towards increased crop production were hindered by unfavourable climatic conditions. As a result, government shifted its policy objective towards food security (WFS, Botswana, 2001; Mazonde, 1993). In addition, the country faces low maize production results due to chronic crop failure, resulting from a limited natural resource base and unfavourable climatic conditions (Van Rooyen and Sigwele, 1998). Moreover, at the time of the 1985 NFS, there was an unpredictable political climate with a possible risk of disruption in the flow of imports (and exports), therefore necessitating a need to push for self-sufficiency (Botswana Government, 2000a).

The scope of the RNFS (in line with the SADC framework for governments) is as follows:

- (i) Improvement in socio-economic security at the national level;
- (ii) Providing economic access to food for households by attaining broad-based income security;
- (iii) Assurance of household food security through availability of national food imports and production; and
- (iv) Guaranteeing food safety and national security.

capturing generational poverty trends comes from the fact that households are selected into surveys at different times (Jefferis, 1997).

¹⁷ The central objective of the National Food Strategy (NFS) was to reduce dependence for basic food supplies on outside agents such as South Africa and food aid donated by bilateral and multilateral agencies (Cathie and Dick, 1987).

The SADC framework for government(s) food security action has the following three levels (Duncan, 1998):

- (i) At the national and regional level, ensuring food availability through production, trade and food aid which affects food prices;
- (ii) At the household level, ensuring access to and acquisition of food, determined by income and prices; and
- (iii) At the individual level, ensuring food use, affected by nutritional practices.

National food security, according to the RNFS, is to be attained through local production and imports. This does not guarantee household food security and the quality of food consumed; these are rather determined by the disposable income available to the household (Mazonde, 1993). Livelihoods are therefore central to determining food security at household and individual levels (Duncan, 1998). Van Rooyen and Sigwele (1998) supported this view and established that the main source of household food security in Botswana is wages and remittances¹⁸.

2.6.3 Food production and import trends

The trend in food production is attributed mainly to the climatic conditions and the limited agricultural land and water resources (WFS Botswana, 2001). Cereals¹⁹ play a significant role as source of energy, in case of Botswana, providing about 50% of the total energy supply, with about 30% provided by animal products, while the remaining percentage is covered by oils, fats and sugars (Van Rooyen and Sigwele, 2001; WFS Botswana, 2001).

Data from the National Early Warning Unit (Botswana) and those captured during the inter-ministerial Drought and Food Assessment tours (DAT) present the country's high dependency on imports²⁰, where by a small percentage of the food supply is acquired

¹⁸ According to Van Rooyen and Sigwele, "it is at the household level that people either eat or starve" (Van Rooyen and Sigwele, 2001:1), therefore food security should be addressed at the household level.

¹⁹ Cereals produced in Botswana mainly constitute the staple foods which comprise maize, sorghum and millet, although millet is produced in smaller percentages comparatively

²⁰ The country's food import bill is estimated to be between 12 and 15% of GDP (WFS Botswana, 2001).

through local production (NEWU Botswana, 1999-2004; DAT, 2002). Table 2 shows, national cereal production and the import²¹ for the previous five years. The estimated annual maize and sorghum requirements²² for 2003/04 were 124 680 and 23 610 respectively.

Table 2: Gross Harvest and Cereal Imports – per marketing year

(Figures in '000 metric tonnes)

	1999/00	2000/01	2001/02	2002/03	2003/04
Gross Harvest Maize, Millet and sorghum	18.72	18.88	12.98	24.70	31.822
Cereal Imports Maize and sorghum	185.942	186.827	205.98	272.249	226.236

Source: SADC- REWU in collaboration with NEWU Botswana



2.7 Dependency on Government Safety Nets: Old-Age Pension and Other Government Transfers

There is a general consensus that old-age pensions are, in essence, household cash transfers tagged on older people (Haagh and Macaulay, 2004; HelpAge, 2003; Barrientos, 2003; Kinsela and Ferreira, 1997). Such cash transfers play a significant role in household poverty reduction as well as in the reduction of household vulnerability through provision of financial stability.

The pension benefit in South Africa was R 640 per month, equivalent to US\$ 75.6 at the market exchange rate during December 2002, and is paid to women aged 60 and above and to men aged 65 and above, and is not based on the income of other household members but only means-tested on the income of the potential recipient (and his/her spouse, for those who are married). For Brazil, it was (during December 2002) 200 Reais, then equivalent to US\$ 55, which was equivalent to the minimum wage. The

²¹ These are mainly import plans of commercial millers.

²² The estimates of annual food requirement are calculated using the status quo approach (NEWU Botswana).

pension is paid to disabled people or people of 67 and over (urban or rural) whose per capita income is below a quarter of the minimum wage (HelpAge, 2003).

Literature reveals a significant role played by elderly people in their households and communities, as well as the importance of the pension system as a social safety net²³. According to Jensen (2003), not all income intended for the household goes directly to the intended beneficiaries; such beneficiaries either willingly or unwillingly share the benefits.

Apart from caring for their sick children and consequently their grandchildren, elderly people also contribute economically to households through their pension money. Kinsela and Ferreira (1997) stated, with reference to Snyman (1997), that 85 percent of pensioners in South Africa live in a three-generation household. In the study “Exploring the role on poverty alleviation in households affected by HIV/AIDS”, Legido-Quigley (2003) explored the effects of the old-age pension in households affected by HIV/AIDS in South Africa. According to Legido-Quigley (2003), the pension fund, which he regards as the most effective means of targeting economically vulnerable groups, was intended as a poverty relief programme for the elderly. However, with the decrease in family incomes caused by the HIV/AIDS pandemic, the pension fund has proved to benefit the elderly as well as their adult children and grandchildren, thereby strengthening intergenerational solidarity and transfers. Although the benefits in the effect of HIV/AIDS are secondary, literature reveals that they have proved to be positive (HelpAge, 2003).

Through the pension fund, poverty reduction has also been observed among the elderly and their households (Barrientos, 2003). Barrientos further established through a multivariate analysis that the probability of a household member living in poverty is reduced by 18% for households with a pension recipient²⁴. In addition, Jensen (2003) observed a 58% reduction in poverty among pension recipients, using data from Venda. Jensen (2003) asserted that the inclusion of the pension fund further reduces overall income differences among households.

Nonetheless, Legido-Quigley (2003) maintained that the pension fund is not adequate for the HIV/AIDS-affected households and therefore suggested that a more appropriate

²³ A number of studies on the contribution of old age pension fund have focused on South Africa and Brazil, as they have the largest non-contributory pension programmes (Barrientos, 2003).

²⁴ In the absence of a pension income and no off-setting changes, the poverty gap would be 40% larger for South Africa and 81% larger for Brazil (Barrientos, 2003).

poverty alleviation measure should be explored, but not at the expense of the pension fund. He further pointed to the non-inclusiveness of the pension fund, as other HIV/AIDS-affected households exist and face the challenges that the disease brings, in the absence of the pension fund buffer, seeing that some of the adults in such households have not yet reached the eligible age for drawing a pension²⁵.

Barrientos *et al* . (2003) therefore suggest that development of appropriate policies would require an acknowledgement of the contributions of older people. According to Barrientos *et al* . (2003) older people's contribution to their families and social networks are often maintained at the expense of their own wellbeing. Barrientos *et al*. (2003) established (through a review of household survey data, qualitative and participatory research) that there is a U-shaped relationship between age and poverty, whereby poverty rises with age in latter life.

Jensen (2003) observed a crowding-out effect of private transfers by public transfers. In his investigation of whether government transfer programmes displace or crowd out private support (with focus on the South African old-age pension), Jensen established that for every rand (South African currency) of public pension received, private support from children living away from home reduced by R 0.25-0.30. Similarly, a negative correlation was observed between a reduction in the pension fund and an increase in remittances, where for every rand by which the pension reduces, there will be a R 0.25 increase in remittances. However, the pension income has no bearing on the decision to migrate (Jensen, 2003).

Dependency on government transfers is more evident among poor families in South Africa who source 26% of their income from such transfers, while that of the non-poor is estimated at about 3%. Another source of income significant among poor households is that from remittances (from family members who are migrant workers) which amount to 17% and 2% for the non-poor. Income generated by agriculture is represented by 4% (for both poor and non-poor) (State of South Africa Population Report, 2000).

The old age pension in Botswana is a flat rate of P166 per month, following a 10% increase in April 2004 (Botswana Government, 2004) for all citizens aged 65 years and above. In 1997 the percentage of people above the age of 60 in Botswana was 5.4% (Kinsela and Ferreira, 1997).

²⁵ The eligible age for the pension fund in Botswana is 65 years.

Literature portrays a heavy reliance of livelihoods on government support among groups categorised as vulnerable. In examining the role of policy in the creation of safety nets to alleviate poverty, PANRUSA (2001) observed, using data from borderland regions of Botswana, Namibia and South Africa, that the livelihoods in these regions were directly and indirectly supported by government policies. The direct payments, however, were observed to be more significant in Botswana in the form of orphan rations and destitute relief. PANRUSA further observed that these payments consequently act as safety nets for the targeted individual as well as the extended household; more so, that some are considered to be permanently vulnerable, such as permanent destitute persons (Botswana Government, 2002).

Although these safety nets have been effective in mitigating poverty, PANRUSA affirmed that in the long-run they increase dependency on government, which inhibits the development of sustainable productive and livelihood capacity in that people “have nothing else to do but wait for their benefits” (PANRUSA, 2001; 2). Similarly, livelihood trends in Malawi exhibit a decline in viability of rural livelihoods due to subsidies and donor handouts (Drinkwater, 2003). Drinkwater (2003) further asserted that the food and input handouts, as well as the public works safety net schemes (non-asset building), exacerbate dependency. The RNPDP also has the potential for increasing dependency on the state, as it provides food rations in proportion to family size²⁶. Moreover, dependency on these safety nets may, as observed by PANRUSA, affect the wellbeing and self-esteem of the recipients. Nonetheless, dependency on the state has been viewed as one of the manifestations of poverty in Botswana and, therefore, public transfers have been a safety net for the poor (Jefferis, 1997). Cathie and Dick (1987) supported this view and affirmed that government transfers have been a source of rural income. Jefferis (1997), however, pointed to proper targeting of benefits as crucial, in order to prohibit the benefits from landing in the hands of those who are not in need, such as middle- and high-income earners.

²⁶ A family with two dependants would receive one package; one destitute with three or four dependants will receive an additional food ration; and an extra food basket will be provided per subsequent two additional dependants (RNPDP, 2002).

2.8 Summary

The aim of this chapter was to review literature with regard to the effect of HIV/AIDS on rural livelihoods for food security purposes. The literature review exhibits a general consensus among researchers that HIV/AIDS has a negative impact on the food security status of the household.

The review of the theoretical overview of the food security concept points to the issue of accessibility as a vital means for attaining food security. Several definitions of food security refer to sustainable access to sufficient nutritional food. Furthermore, there is evidence that social structures such as the extended family play an important role in the recovery of the HIV/AIDS-afflicted and/or -affected family. However, the dependability of these structures in the long term is questionable, as they are themselves subject to pressure from the HIV/AIDS pandemic. Therefore, families may need to seek alternative buffer systems in times of need. The care of orphans emerges as a major challenge in Sub-Saharan Africa, with the continuation of HIV/AIDS-related adult deaths. Families with diversified livelihoods appear to be more able to cushion the impact of an HIV/AIDS shock. This is reflected by the literature on diversification which embraces the idea that vulnerable people should not put all their “eggs” in one basket.

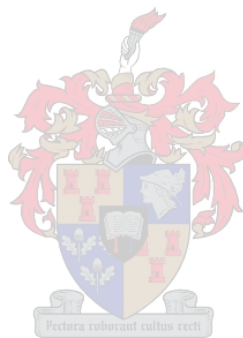
The role of the nonfarm economy has been pointed out as vital to the rural economy especially in cases of landlessness and where agricultural production is failing due to climatic conditions as in the case of Botswana, in which case rural non-farm activities may be an option.

Nonetheless, literature indicates a tendency for some livelihood strategies such as migration to make people more susceptible to HIV. Therefore, an understanding of the livelihoods which are likely to increase the risk of contracting the virus and economic circumstances that place households at greater risk would assist in targeting preventative measures. In addition poverty has been observed to exacerbate the impact of the pandemic through lack of food to sustain healthy eating. On the other hand HIV/AIDS has contributed to a growing impoverishment of households.

There is a general overburdening of government transfers, such as the old age pension due to the pandemic. In the case of Botswana, other government transfers such as the orphan rations and destitute relief, respectively targeted for specific individuals and

poverty relieve are evidently shared with other members of the household, more so as household livelihoods are drained by the pandemic.

In this study, the effect of HIV/AIDS on household food security will only be predicted qualitatively. There is still need to quantify these effects.



CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter contains the research procedure followed in this study, as well as the methodological approach used and the techniques employed. The concepts of research methodology and method are discussed according to how different authors use them. Similarly, the notions of qualitative and quantitative research as they relate to concurrent nested strategies of data collection are discussed. The case study approach, which has been selected for this study, is also discussed, in terms of its ability to provide a comprehensive picture of the household for an in-depth analysis.

The use of any research method and/or technique involves taking into account the relevant assumptions and values under specific circumstances. According to Mouton (1996a), the researcher's decision to use a particular method or technique depends on the purpose of the research and the nature of the unit of analysis. However, there may still be limitations even with techniques which are relevant to the nature of the phenomena under investigation.

Data collected may be qualitative (collected in the form of words or pictures) and therefore better explained in words, or quantitative (collected in the form of numbers) and better explained numerically (Casley and Kumar, 1988 cited by Mutimba, 1997). Historically, there has been general consensus, among researchers that qualitative and quantitative paradigms are incompatible. However, more researchers are reaching an understanding that these techniques are complementary at different levels of the research process, namely at methodical and technical levels (TANGO international, 2003; Mouton, 1996a; Creswell, 2003).

3.2 Clarification of Concepts

3.2.1 Method and Methodology

Mouton (2001) refers to methodology as the process and procedures used in the implementation of the research, including the kind of tool used (generally, the methods used) and research design as the logic of the research, meaning the kind of evidence necessary to address the research question.

Similarly, Silverman (2001) defines “methodology” as the manner in which we study any phenomenon, which would include the choice of cases to study, data collection and analysis methods, whereas “methods” are defined as the specific research techniques, such as sampling, interviewing and recording (Silverman, 2001). Mouton’s (2001) and Silverman’s (2001) notions of methodology and methods have been adopted in this study.

3.3 Quantitative and Qualitative Techniques

Quantitative research focuses *inter alia* on probability sampling (i.e., random sampling) techniques, with samples selected to be representative of the population in order that the results can be generalised to the larger population. The emphasis of quantitative methodology is therefore on numerical data. Qualitative research approaches are generally used in field research for descriptive studies and in case studies, the focus of which are descriptive data. As a result, while in the field, the researcher can continually modify the research design (Babbie, 1995).

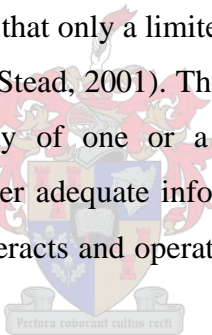
On the other hand, a number of researchers have used mixed methodology design, where both the qualitative and quantitative paradigms are followed in one study. In some cases, one paradigm may be more or less dominant than the other (called dominant-less-dominant designs). The mixed methodology design has been considered by some researchers as a useful tool in improving the quality of research. The general consensus has been that the conflict between qualitative and quantitative paradigms is therefore a non-conflict (Mouton, 1996a).

Morse (1991, cited by Creswell, 2003) explained another strategy of using data from the two paradigms (quantitative and qualitative), termed the “concurrent nested strategy” in which one method may be less dominant than the other and as a result nested or embedded in the predominant one. In such a case, quantitative data may be used to explain some aspects of the qualitative data which can be explained better in a quantitative format and vice versa.

This study follows the qualitative methodological paradigm; however, this will not be a strictly qualitative study, as it will contain some quantitative aspects in a nested format (concurrent nested strategy). The qualitative paradigm is therefore more dominant.

3.4 The Case Study Approach

The literature indicates a long history of the use of the case study approach. The term “case study” comes from the fact that only a limited number of individuals or groups are studied intensively (Struwig and Stead, 2001). The case study approach is defined as an all-inclusive and intensive study of one or a few individuals, which allows the researcher to systematically gather adequate information to facilitate understanding of how the individual functions, interacts and operates as a single unit of society (Bassey, 1999; Stake, 1995).



According to Huysamen (1994), case studies are centred on understanding the uniqueness and complexity of a case. Huysamen further outlined the following (three) aspects concerning conducting case studies (Huysamen, 1994: 169):

- (i) The case should be defined, that is, its boundaries should be determined;
- (ii) The techniques used for data collection are more concerned with inductive searching for recurring patterns and consistent regularities;
- (iii) Available cases are examined; since the number of cases to be investigated is limited, triangulation is usually used to validate findings.

The question of boundary definition is also expounded by Denscombe (1998), who contended that if the case has no end-point and no outside it would “bleed” into other social phenomena and cases. Therefore, a case should be self-contained with distinct

boundaries²⁷. Denscombe (1998) maintained that the basic rationale underlying the case study approach is that researchers are able to tackle relationships and social processes which they may not discover with standardised approaches and predetermined response categories. Therefore the analysis is holistic and not based on isolated factors, since the researcher is able to probe deeply and to analyse multifarious phenomena (Cohen and Manion, 1989 cited by Bassey, 1999).

Moreover, Schoepf (1991, cited by Strebel, 1995) pointed to the limitations of traditional quantitative methods in handling complex and sensitive issues where there is need for deeper understanding and flexibility of exploration. In addition, Mutimba (1997), with reference to the works of Whyte and Alberti (1983), supported this view and maintained that quantifying and standardising sacrifice the richness of the flow of human events.

The challenge with the case study method is that the researcher should have a breadth and depth of knowledge about the topic under investigation in order to compare the relationships observed in the study with existing literature and to further check for consistency. Nonetheless, case studies are handy where problem significance is of utmost importance, as compared to precision as emphasised by quantitative methods (Mutimba, 1997). Despite its strengths, the case study approach also has limitations.

The main limitation of a case study is that it cannot be generalised to the broader population, as the sample is not selected through probability procedures and therefore not representative of the population. Nonetheless, it may be generalised to cases similar to the one under investigation (Yin, 1984)²⁸.

3.5 Sampling Techniques

3.5.1 Purposive Sampling

Purposive sampling, also termed “judgemental sampling”, uses the researcher’s judgement in selecting cases for the specific purpose in mind. That is, the purpose to be served by the respondents is pre-decided (Babbie, 1995; Bernard, 2000; and Newman,

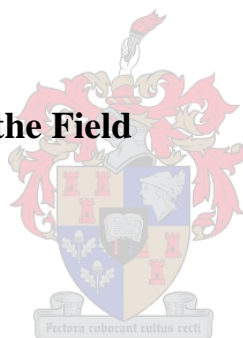
²⁷ Denscombe (1998: 38) gives a broader discussion of physical, social and historical boundaries.

²⁸ However, it is worth noting that the impact of HIV/AIDS cannot be generalised to the same country or the same community, neither spatially nor over time.

2003). Neuman (2003:212) cited three cases in which purposive sampling are more suitable: firstly, in the selection of unique and informative cases; secondly, in the selection of cases which are difficult to reach (i.e., in the case of a specialised population) and, thirdly, in the selection of cases for an in-depth investigation. As a result, Neuman (2003) considered purposive sampling to be suitable in exploratory research or in field research.

Purposive sampling has been used in this study because it was not easy to get a proper sampling list of the prospective respondents and also due to the sensitivity of AIDS related issues. Besides, it would have been pointless to have a random sample and hope that the sample has cases of families who have been affected by HIV/AIDS. A purposive sampling technique allowed the researcher to *get all* possible cases that fit a particular criterion using various methods. The CHBC team were used to select the cases with the necessary characteristics, viz. families that have been affected by HIV/AIDS.

3.6 Data Collection in the Field



3.6.1 Sponsorship

The study was sponsored by the Botswana Government through the Ministry of Agriculture. Four thousand Pula (P4000), the equivalent of R5440 (at exchange rate 1.36) was provided for the entire research project, which is the standard amount given to all master's students undertaking a research project. This proved to be a limited budget, considering that all costs associated with the fieldwork, secretarial tasks as well as publishing had to be covered by it.

3.6.2 Gaining access

Bailey (1996) pointed to the possible difficulties in gaining access to the study area and the participants. That is, “gatekeepers”, people who have the power to permit or withhold access, may allow or withhold access to the study area and/or the participants. Citing Johnson (1975), Bailey (1996) explained that the gaining of entry is more of a

progressive series of negotiations rather than a one-shot agreement; the researcher's credibility is therefore established by being honest (Bailey, 1996).

Gaining access to the study area and the participants was one of the challenges encountered in this study. There was need for the researcher to constantly clarify the aim of the study as well as the reasons for selecting Bokaa as the study area. The interview schedule was further used by the Ministry of health research unit to assess whether or not to grant the researcher permission to conduct the research.

3.6.3 Pilot test

The first three households were used to pilot test the interview schedule. From these households, it was evident that the first question on the schedule was not rightly placed as an introductory question: the wording assumed that the person interviewed knew that their family member has or had a HIV/AIDS-related illness, which was not always the case, as also confirmed by subsequent interviews. Talking about illness or death of a family member at the beginning of the interview induced some tension in the discussions and led to brief answers from the respondents.

Following the pilot test, the researcher decided to rearrange the interview schedule and used the question on livelihoods as an introductory question. This proved to give a more natural flow of the information related to HIV/AIDS, in that families which were comfortable to express the HIV status of their family members or their own status (where the HBC client was the informant) were able to voluntarily provide such information. The pattern of stating or not stating the HIV status was also observed among families of which members had already passed away; some families were able to state the HIV status of their late family member while some reflected some lack of knowledge on whether HIV/AIDS could have had any role in the sickness and death of such member. This could possibly have been due to the stigma associated with the disease, resulting in a preference not to disclose their family members' HIV status.

3.6.4 Collaborative research

This study followed a collaborative research approach, in which the participants were treated as individuals who have the right to know what is happening around them (Everitt *et al.*., 1992 cited in Hall and Hall, 1996). On that note, it was necessary for them to know the real reason for the research in order for them to be free to either give or withhold their consent, especially as voluntary consent was highly critical for this study, considering the sensitivity of the area of research.

3.6.5 Informed Consent

In order to obtain the participants' consent, a consent form was used, which was constructed with the assistance of ethical guidelines as outlined by Kvale (1996). The form was an introductory summary of the proposed research: it had the name of the researcher; the aim and purpose of the research as well as a portion which was seeking their consent in the use of a tape recorder during the interviews. In order to avoid communication problems as far as possible, the consent form was translated into Setswana (the local language). At the end, the form had a space for the participant's signature as well as that of the researcher. Signatures were regarded as a sign of agreement to take part in the research, that is agreement to be interviewed and was only obtained once verbal consent had been given. The same consent form also informed the participants of their right to withdraw from the interview at any point during the interview. Copies of the consent forms appear in the appendices (Appendix E and F).

3.6.6 Interviewer Presence

Interviews are a more direct and personal way of obtaining information from participants; Bless and Higson-Smith (1995) pointed to the fact that the personal contact may influence the outcome of the interview²⁹, even though the interviewer is mainly present to record the information.

²⁹ The quality of the personal contact may contribute to the confidence or lack thereof in the respondent and the objectivity of recording (Bless and Higson-Smith, 1995).

Literature points to the appearance of the researcher as a significant component of the field research. For example, a researcher who appears young may hinder responses from older people. Similarly, elite informants may possibly prefer responding to senior rather than junior researchers (Arksey and Knight, 1999).

3.6.7 Rapport

Hall and Hall (1996), with reference to Douglas (1976), pointed to the necessity of using cooperative methods in which the researcher and the participants build a friendly and trusting relationship. However, he warned the researcher of the possibility of misinformation (i.e., unintended falsehoods), such as socially shared lies. He therefore suggests that the researcher should not befriend the participants more than necessary.

The first visit to the participants' homes was used mainly to develop rapport with the participants and their families. According to Bailey (1996), establishing rapport requires the same skills that one uses in making friends, such as greeting with a smile and showing interest in some aspects of the participant's life. Interest was shown through asking simple questions such as, "Is this your child? How old is he/she?" For instance, a conversation centred on a crawling child was an opening used with one of the participants.

Good rapport was also established between the researcher and the Family Welfare Educators (FWEs) and this contributed their readiness to assist in all the first visits.

3.6.8 Confidentiality

The information provided by the participants and the clinic was treated as confidential. To ensure the confidentiality of the information collected, names of participants were not used during the recording and subsequent report writing. Furthermore, the information provided by each household was used with that from other households for across case analysis. Also, in two cases the homes in the list provided by the clinic were very close to each other (either next to or opposite each other). In these cases, in order to protect their confidentiality, the researcher chose to leave out one of the households (that household which had not been interviewed yet).

3.6.9 Reliability

A research tool should be consistent in measuring what it purports to measure, in order that the research may be replicated (Huysamen, 1998). The extent to which the research findings can be replicated portrays their reliability. In other words, reliability measures “the extent to which a test would give consistent results if applied by different researchers more than once to the same people under standard conditions” (Hall and Hall, 1996: 44).

Unlike in survey studies, questions in an in-depth study may be asked and discussed in different orders and may therefore yield different outcomes for different researchers. Nonetheless, the research instrument must be consistent in data produced for different researchers, with variations only occurring due to variations in the object of study being volatile (Denscombe, 1998). Because only one researcher collected the data in this study, inter-researcher variation is not relevant.

3.6.10 Validity



It is necessary to know how much value should be attached to the research findings. Validity is defined as “the extent to which a test, questionnaire or other operationalisations are really measuring what the researcher intends to measure” (Hall and Hall, 1996: 43). This view was also affirmed by Huysamen (1998) who stated that the validity of a measuring tool hinges on its ability to measure what it purports to measure. Furthermore validity addresses the questions of whether or not the indicators measured are suitable for the concept and whether accurate results are realised (Denscombe, 1998)³⁰.

3.6.11 Key actors in obtaining participants

The female FWE was one of the key actors in the process of obtaining access to participants. She appeared to be well known in the village and this contributed to the positive reception by the participants. One point worth noting is that FWEs in Botswana

³⁰ It is therefore necessary to pre-test the interview schedule. Furthermore, findings may be validated by cross-checking and triangulation.

are usually employed in their home villages; this generally ensures a positive relationship between the community and the FEW. The role played by the FWEs was, firstly, to provide data on the patients who receive the food basket, secondly, to guide the researcher to the homes of the prospective participants and, thirdly, to introduce the researcher to the family. Following this initial introduction, the researcher had the liberty to independently revisit these homes.

3.7 The Study Area

As mentioned in Chapter 1, the study was conducted in Bokaa village which is in the Kgatleng district of Botswana. This area was chosen for several reasons.

Agricultural activity has been used as an indicator for food availability. Kgatleng district is within the Gaborone agricultural region which, according to DAT (2003), had the second highest (5076 ha) area ploughed/planted, after Southern region which had 8279 ha. Among the districts in the Gaborone agricultural region, Kgatleng district was selected as the study area, since it had the second highest total crop yields in kg/ha and the third highest in total area ploughed/planted (817 ha), which is high relative to the size of the district. Crops included mainly sorghum (the staple food), maize and pulses (DAT, 2002). The total crop production for this district in metric tones was 30.04 placing the district in the fourth position in this region (DAT, 2003). While there are many factors which could have contributed to the final output level, it was worth investigating whether or not HIV/AIDS has contributed to the final, comparatively low output, considering that this is one district in which the estimated output per hectare was comparatively high.

Another reason for selecting this district was the data on pregnant women, which was used as an indicator for HIV/AIDS prevalence: according to the second generation HIV/AIDS surveillance report, Kgatleng district had more than 30% HIV prevalence among pregnant mothers (NACA, 2002).

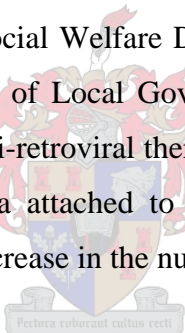
Finally, distance and easy access by road transport from Gaborone (where the researcher resided) were also considered in the selection of this district as the study area.

The specific village in which data were gathered, Bokaa, was selected as the specific study area for the following three reasons:

Firstly, among people aged 12 years and over, grouped by their usual economic activity, Bokaa had the highest number of people (112) who are engaged in either paid or unpaid seasonal (agricultural) work, while other activities included non-seasonal unpaid work, which is inclusive of unpaid family help (Census Office, 2001).

Secondly, in the category “sick”, which was used during the census survey, Bokaa also had the highest number (96 people) among the villages in Kgatleng district (excluding the main village, Mochudi). According to clarifications from the census office, these were people who could be working or were once employed but were at the time of the census not working due to sickness (Census office, 2001).

Another point considered when selecting Bokaa was the number of people registered in the CHBC program. At the end of February 2004, Bokaa village had the second highest number of people (24) receiving the food basket under the CHBC program, the highest being Rasesa with 27 people (Social Welfare Division, 2004). Reports from the social welfare division of the Ministry of Local Government, Lands and Housing indicate that, since the introduction of anti-retroviral therapy (ARV) and AIDS education, which is gradually reducing the stigma attached to HIV/AIDS sufferers, more people are coming forward, leading to an increase in the number of CHBC patients (DAT, 2003).



3.8 Data Collection Procedure

A letter requesting permission to conduct the study as well as the research proposal were submitted to the Ministry of Health’s research unit. This was done with the guidance of the officers responsible for research in the Office of the President.

At the research unit, the proposal was reviewed and the researcher was advised to make some adjustments to the format of the proposal and to further expand on the proposed research methodology, after which permission to conduct the research was granted.

However, this permission of the Ministry of Health did not necessarily warrant permission to enter the village; there was therefore a need to communicate with the district authority. A letter explaining the purpose of the study and seeking access to one

of the villages in the district was sent to the district authorities through the office of the council secretary³¹. Copies of the letter from the Ministry of Health's research unit and the study tool (i.e., list of question to be used for data collection) were attached. After sending this letter, a visit to the district offices was made, specifically to the offices of the district health team. This first visit was unfruitful because neither the nursing superintendent, who is the head of the district health team, nor her assistant was available. However, the CBHC coordinator was available. Although she was not allowed to provide any information requested without permission from the higher authority (viz. the office of the nursing superintendent), she did bring to the researcher's attention that she had not received any correspondence with regard to this study.

Several phone calls were made to the office of the nursing superintendent subsequent to this visit, in an attempt to schedule a meeting. There was much unanticipated difficulty in scheduling the meeting, mainly because this coincided with numerous training workshops and meetings (on a performance based reward system for government employees), which most government departments were engaged in at the time.

A meeting was only scheduled once one of the researcher's phone calls to the district was received by the nursing superintendent (who is the matron's senior). At this meeting, the researcher discussed some background information leading to the selection of Bokaa village as the study area with the nursing superintendent and the district CHBC coordinator was also informed about the study. After permission for conducting the research was granted, a communication was made from the district office to Bokaa village and the researcher was advised to visit the village.

The first visit to the village, on the same day on which the permission was granted, started with a visit to Bokaa clinic. At the clinic, the researcher met with one of the Family Welfare Educators (FEW) and was introduced to the CHBC coordinator. At this point, the purpose of the study was discussed, together with the type of data required from the clinic, which was mainly a list of people who are registered under the CHBC program to receive the food basket due to HIV/AIDS-related ailments.

³¹ Letters to Kgatleng district and Ministry of Health requesting access to the respondents, as well as the letter from Ministry of health granting permission are attached in appendices (Appendix G, H and I).

3.8.1 Information obtained from the clinic

There was no readily available list of people with the characteristics required by the researcher. Therefore, the researcher and the FWEs worked on the CHBC data available at the clinic to compile the required list. The first stage in compiling the list was to identify, from the general list of people in the CHBC programme, those who received the food basket. Hereafter further screening was done in order to identify those who had been registered due to HIV/AIDS-related ailments. This category which is identified as Category 1, had 10 people. The households of eight of these 10 people were included in this study. Of the two households excluded, one was a refusal while the other was left out for confidentiality reasons (the house was next to one in which an interview had been conducted).

In the second stage of compiling the list, those who received the food basket and died due to HIV/AIDS related ailments were identified from the list of deaths recorded from 2001 to date. The households of these people were used to collect data on the impact of an HIV/AIDS-related death on the household's food security. This category, which was identified as Category 2, had seven people, some who died before receiving the food basket or while still on Ensure (the nutrition drink). Of the seven in this category, data were collected from five households. As in Category 1, one household was left out due to confidentiality reasons (the house was next to one in which an interview had been conducted). A second household was left out because of unsuccessful revisits (the family member whom other members of the household identified as the right person to be interviewed and who was also the mother of the deceased, was not available during any of the researcher's visits).

3.8.2 The sample

The final sample had 13 households: eight from Category 1 (those whose affected members are still alive) and five from Category 2 (those whose members have passed away). The age range in Category 1 was 28-44 years, while in Category 2 it was 32- 47 years. It is worth noting that all those in Category 1 were women, whereas in category 2, three were women and two men.

3.8.3 Obtaining consent

All the households on this final list were visited. During every first visit, the researcher was accompanied by one of the FWEs. The FWE assisted the researcher in identifying the dwellings of the people on the list. During this first visit, the researcher was mainly introduced to the family as a visitor, and the researcher further introduced herself and the purpose of the visit. The researcher then gave the family a short background of the study and finally asked them if they would like to participate in the study. During this visit, the researcher also made several observations, which will be expanded on later in this chapter.

During the second visit, the interviews were conducted, in Setswana (the local language). The first step was to recap on the previous visit and to allow the informant to read the consent form (in some cases, the researcher read it for them). After going through the consent form, answering the respondent's questions and reaching a verbal agreement on participation, the consent form was signed as a sign of agreement to be interviewed.



3.8.4 The Interviews

The interviews were conducted in two stages. The first stage was mainly to collect data on the demographics of the family³², in order to establish the family size and structure and to check for any signals for the dependency rate/ratio.

The information this quantitative questionnaire provided indications of who has a share in the “household pot” and of whether the pot (i.e., the food available) was enough for the family. This was used together with the qualitative information to assess the impact of HIV/AIDS on food security status.

Initially, this information was captured through the use of a demographic questionnaire. This questionnaire proved to be limited in that it was not able to link the children to the parents. This was then replaced by the family tree structure, which gave a better picture of “who is who” in the family, that is, the flow from parents to children and grandchildren.

³² A copy of the questionnaire on demographic indicators is attached in appendix J.

The second stage of the interview was a focused interview in which the respondents were interviewed for about an hour (Yin, 1984). A semi-structured schedule was used to generate the qualitative data; however, in some instances, quantitative data were also captured.

The semi-structured interview approach was selected as it does not govern the participant(s) with predefined definitions and possible answers, and further allows participant(s) to discuss issues beyond the questions posed (Berg, 1995 cited by Struwig and Stead, 2001). Additional questions may also be formulated by the researcher during the interview (Richards, 2000; Denscombe, 1998).

3.8.5 General Observations made

Bailey (1996) outlined different aspects of what an observation in field research entails: it may include physical surroundings (as the home may tell a story about the person) and household members' appearance, which may reflect the family's status. In every household visited, the physical surroundings, such as the type of housing, were observed, as well as the appearance of the household members. Children were also observed to check for any obvious signs of malnutrition. These observations were done mainly during the first visit in which the household members would generally not have been expecting visitors.

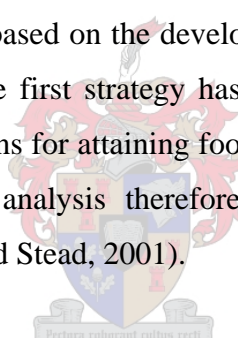
3.9 Data Analysis

From the transcribed data, a coding scheme was developed. This was a type of descriptive naming scheme: themes that emerged from the transcripts were used as a coding scheme and more themes were added as they emerged during subsequent reading(s) of the transcripts (during which there was a deliberate search for any additional theme). Seidel (1998) pointed out, with reference to Jorgensen (1989), that during the analysis stage the researcher has to examine, break up and sort the data with the aim to put it back together in a more meaningful manner. However, Seidel (1998)

cautions that the breaking down of the data should not alter the basic structure of the case³³.

Subsequently, the themes were used to code the text and texts with the same codes were placed into the same category for cross-case analysis, bearing in mind that analysing common issues across cases can also be used to seek generalisation among the cases (Yin, 1984). Stake (1995) discussed two strategies for reaching new meanings in case study analysis, viz. direct interpretation of individual instances and aggregation of instances in a manner that allows the researcher to have something to say about the aggregated instances (as a group/class). Direct interpretation of individual instances, which according to Stake (1995) is about pulling the data apart and putting it together in a more meaningful way, is in line with Jorgensen's (1989, cited by Seidel, 1998) earlier proposition.

In addition, Yin (1984) further discusses two general strategies for analysing case study data, one of which relies on the theoretical propositions on which the study is based. Whereas the other strategy is based on the development of a descriptive framework for organising the case study. The first strategy has been followed in this study, as it is based on theoretical propositions for attaining food security. The use of food security as a theoretical framework for analysis therefore places the study in the deductive approach category (Struwig and Stead, 2001).



3.10 Challenges Encountered and Lessons Learnt

The main challenges encountered were in relation to access to the study area and participants. This was a long process, commencing in July 2003 and ending in January 2004. Minor challenges included several call-backs to the homes of the participants; Neuman (1997) suggested that, for academic research, five call-backs are sufficient.

The researcher was prepared for questions such as "How did you choose me?" and "What is this about anyway?" According to Neuman (2003) these are commonly asked questions. These questions were indeed often asked by members of the participating

³³ Seidel (1998) likened qualitative analysis to collecting and sorting pieces of a jigsaw puzzle and further highlighted that, with qualitative data, the pieces are not pre-cut. Nonetheless he cautions the researcher following the jigsaw puzzle analogy not to lose the phenomena by mainly focusing on finding codes.

households. Only in one case were the researcher's answers to these questions followed by a refusal to participate.

Conducting research often means tolerating things that make you uncomfortable (Gurney, 1985 cited by Arksey and Knight, 1999). The researcher had one such experience where a participant was quarrelling with one of the family members. The researcher had no other option but to sit through the argument, waiting until it was settled according to both sides. It is worth noting at this point that family disputes were not part of the research and therefore the researcher did not make any effort to follow up the dispute. Although the respondent made reference to the dispute, the researcher was careful not to make any personal contributions which might have been interpreted as taking sides.

Furthermore, talking to people who are not well or who have lost a family member, especially in the very recent past, was challenging. It was important that the researcher would be cautious of the sensitivity of the issue and expect possible emotional expressions during the interviews.

After gathering the data, transcribing some of the tapes proved to be challenging, with background noise (especially the voices of children playing) being higher than expected seeing that the children did not seem to be close to the microphone during the interviews. In future, care will be taken to either move the interview to a quieter area or to use a unidirectional microphone.

Finally, the use of a qualitative research approach was another challenge, as the researcher has a quantitative research background. This difference in research approach made the entire project a worthwhile learning process.

3.11 Summary

The aim of this chapter was to outline the methods used for data collection and the procedure followed, as well as the challenges encountered.

The term “methodology” as defined by Mouton (2001) has been chosen in this study to refer to the implementation of the research which covers the following: the methods of data collection, the sampling procedures as well as the data analysis and interpretation procedures. The method and techniques used entailed the use of a purposively selected

sample. The researcher was careful to select the cases which were relevant or were thought to be able to provide the relevant data by purposively sampling the respondents.

Nonetheless, the impact of HIV/AIDS on the household can be better investigated by using diversified data sources and data collection methods, which is one of the strengths of the case study approach. The case study approach has been selected as it would allow an in-depth investigation of interdependencies among different facets of the household(s), including inter- and intra-household effects, for a more holistic exploration of the impact of HIV/AIDS on the household as the unit of analysis.



CHAPTER 4

SYNTHESIS OF RESEARCH FINDINGS

4.1 Introduction

This chapter presents research findings, which is mainly a cross-case analysis and interpretation of the findings. The cross-case analysis focused on analysing common issues among the cases and sought generalisations among the cases. Yin (1984) pointed out that, in a multi-case study, the individual cases may not necessarily be presented in the final report. In this study, the individual cases are used as illustrations. Furthermore, as Yin (1984) suggested, this case study analysis follows theoretical propositions, which the study is based on.

Following the idea of Yin (1984), the concept of food security is used in this study as a theoretical framework for analysis, therefore placing the study in the deductive approach category according to Struwig and Stead (2001). This analysis of food security focuses on calorie availability and not on nutritional value *per se*; calorie availability does not necessarily mean nutritional availability, as the two are not correlated (Maxwell *et al.*, 1999).

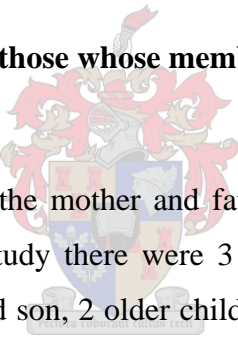
The detrimental effect of HIV/AIDS on the household food security status is considered in this study, and is analysed in terms of whether or not the households continue to be food-secure assuming they were in the first place. The measures put in place by the households to cushion the impact are also analysed, although the latter is not the main focus of the study. These measures to cope as well as the actual ability to cope differ among these households under investigation, due to the diverse manifestations of an HIV/AIDS impact among the households. This diversity in impact exists mainly because the incidence of an HIV/AIDS-related illness finds households at different levels of food (in) security. On the other hand, some of the issues expected after reading the literature did not emerge during the field research, such as children being taken out of school to care for family members or due to financial constraints.

4.2 General Composition of the Households

Most of these households were three generational and female-headed, either by widows or single mothers. Out of the 13 households interviewed, six were headed by single women (who have never been married) and four by widows. One was headed by a widower and two by married men.

The average number of household members was seven, ranging from 4 to 13 members per household. The bigger households were generally those with three generations and the smaller ones comprised two generations. Some of the two-generational households were previously three-generational but had lost the middle generation due to death. The age range of these households was wide, ranging from grandmothers to children of less than 10 years, with some households having teenage children and/or older children who were either not working or depending on erratic piece jobs.

The following households are those whose members are still alive:



HH 1: In this household both the mother and father are sick with HIV/AIDS related illnesses. At the time of the study there were 3 people living in this household; the mother, father and a 6 years old son, 2 older children stay in Gaborone (one attended a tertiary institutions). Before the illness the mother was working as a domestic worker and the father does construction piecework. They used to get food through purchases; at the time of the study they were only getting food through the food basket.

HH 3: In this household the mother (single mother) was the one who was sick; she was self-employed running a small-scale textile business. This was a three generational household with 9 members. Before the sickness the family obtained food through purchases. At the time of the study food purchases were significantly reduced and they were mainly living on the food basket. This family received little support from the extended family as far as food is concerned.

HH2: The sick member in this household was a 34 year old daughter who used to do piece work (but did not contribute to the household food expenses while working). This was a three generational household with 13 members. Food in this family was obtained through purchases (mother doing piece work, 2 uncles doing construction piece work, old age pension), the 1 food basket and occasional remittances in the form of food. They

also received much support from the extended family, which was more evident during the time of illness.

HH 10: The sick family member was a 43year old daughter who used to work in a bar. There were 4 members in this household. Food was obtained through own production and purchases as well as the food basket. Food access had been altered since the daughter became ill and could not work. The extended family played a minor role in this family. Intra family (immediate family) support was more significant.

HH 5: In this household the ill member was a 36 years old daughter who was self employed as a tailor and was no longer working at the time of the study. There were 11 members in this three generational household. Food in this household was obtained through purchases; own production and occasional remittances as well as the food basket. According to the respondent, the daughter's illness had significantly reduced the household's ability to access food. Inter household effects played a more dormant role in this household.

Hh6: The sick member in this household was a 29 year old daughter who used to work in a garden centre in Gaborone (commuting). There were 7 members in this household, a father (widower) with children and grand children. Food in this household was obtained through purchases through the father's old age pension money and the food basket. Inter-household relations played a significant role in the household's food access.

HH 8: The sick member was daughter who was also a mother of two, who used to work in Gaborone. There were 9 members in this household. Food was obtained through own production, purchases through the old age pension and the food basket. Inter-household effects were prevalent through friends and neighbour more than the extended family.

Hh7: In this household a 29yrs grand daughter who used to work at a surgery in Gaborone was sick; she came to the village (where she is staying with her grandmother, uncle, aunt and a 5 year old cousin) due to sickness. There were 5 people living in this household and food was obtained through the old age pension, occasional food remittances and the food basket.

B. The next household lost their member who had no Children:

HH 12: This family had lost a son (due to HIV/AIDS related illness) who used to do construction piece work. There were 7 members in this household. Food was obtained through purchases from the mother's old age pension; the extended family played a significant role in the food procurement of this household. The respondent (mother) highlighted their reliance on the extended family.

C. The following four households are those who were taking care of orphans, in three of these households orphans were taken care of by their late mothers' elder sisters while in the third household they are taken care of by their grandmother in the same home they stayed in before their mother passed away.

HH 4: This household initially had 3 member and they received 2 orphans who had lost a mother and brother due to HIV/AIDS. Food in this household was obtained through the aunt's income and 2 orphans' food baskets. There were no inter-household effects as far as food access was concerned.

HH 9: In this household orphans were taken care of by their late mother's elder sister who is unemployed, there were 4 members in this household and food was only obtained through the 2 orphans' food basket. They did not have any other means of livelihood, inter-household relations played a minor role in this household as compared to the time before they received the orphans' food basket in which case they used to ask for food from the extended family. The late mother used to work in Gaborone (the respondent was not aware of the type of job she did).

HH111: The case of orphans taken care of by their late mother's elder sister. There were 6 members in this household (2 adults and 4 children). These children lost both parent's due to sickness, the father had a terminal disease but only the mother's illness was associated with HIV/AIDS. Before the sickness the mother was unemployed and the family was taken care of by remittances the father sent while he was working in the South African mines before his illness. Food in this household was obtained through the aunt's own production and purchases, as well as from 2 orphans' food baskets.

HH 13: Here orphans were staying with their grandmother in the same household they stayed in before their mother passed away. There were 4 members in this household. Food was obtained through purchases (old age pension) and 2 orphans food baskets and remittances (in the form of food). Before the illness the mother was working in Bokaa dam construction and she also used to have a much flourishing vegetable garden.

4.3 Sources of Livelihood

The discussion around livelihoods was open; the researcher sought information on anything that contributed to the livelihoods of the family. At this stage, the researcher had to probe often, as some sources of livelihoods may not be considered significant by the households and therefore result in unplanned omission. For example, piece jobs were in some cases not considered a source of livelihood because of their irregularity. In addition, poultry was also considered to be insignificant as a contributory factor to livelihoods, as reflected by the frequent omission of possession of poultry when the respondents outlined their sources of livelihoods, even in cases where the chickens were sold in order to meet other household needs.

Among the participating households' livelihoods were piece jobs, which took the form of domestic work, brick laying and general construction labour work and, to a smaller extent, agricultural production and drought-relief labour-based public works. Also, some of these households occasionally received remittances (mainly) in the form of food from children working in Gaborone, with cash remittances being scarce.

Government transfers had also become significant sources of livelihood to some families. Responses from the interviews reflected the significant role played by the old-age pension in the households' expenditure patterns. The role of pension money is discussed in more detail later in the chapter.

According to an informal interview with staff members at the Ministry of Local Government, in some parts of the country the Revised National Policy on Destitute Persons has been nick named "Buleladitswe", which literally means "open up and let them out", referring to the benefits. Assistance provided under the new policy includes a food basket, clothing, shelter, toiletries, rehabilitation, funeral expenses, transport and school uniforms for needy students. Over and above these, the destitute person is

provided with 55 pula in cash to cater for necessities not included in the monthly food basket³⁴.

The main distinction between the revised policy and the old one lies therein that the old policy focused on one destitute package for the household (when the head of the household was considered destitute) whereas in the new policy assistance is provided in proportion to family size. That is, a family of three individuals, for example, would receive one package; one destitute person with three or four dependants will receive an additional food ration; and an extra food basket will be provided for every subsequent two dependants (Botswana Government, 2002).

As a result, some labour-based public workers for certain drought-relief projects have considered it more profitable to remain destitute so that they can receive destitute packages without having to work. Reliance on government further hinders livelihood diversification and expansion of current sources of livelihoods.

4.3.1 Livelihood diversification

There was a general lack of livelihood diversification among the households that participated in this study. Agriculture appeared to be the main source of livelihood for some of the households with no other livelihood sources. This was reflected in the dormancy of household members and the high dependency on government transfers where agricultural production has failed: the members did nothing to generate an income but merely waited for the benefits from government in the form of an old-age pension and, in some cases, orphans' food baskets. Activities such as petty trading and tailoring, which are portrayed by literature from other African countries, were rare in these households. In examining equity and food security implications and identifying the factors driving households to diversify outside of agriculture, Reardon *et al.* (1994) concluded that non-farm activities in African households have the potential to improve farm productivity if their income could be used to finance farm inputs as well as long-term capital investments. He also pointed out that the non-farm income could be useful to improve food security by enabling the household to purchase food during times of shortfall in food production. Such activities were not observed in the households in this study.

³⁴ Unlike the CHBC food basket, the destitute person's food basket is equivalent to P156.40 per month.

In addition, home gardens, which could complement the food consumed and as well as contribute to the nutritional quality of the diet, were also a rare sight in these households. For vegetables, these households have opted for purchase instead of own production (the former depends on the producers' supplies, prices and availability of cash), leading to fluctuations of these households' vegetable consumption. This matter is returned to in the discussion on food procurement and consumption patterns, which follows later in this chapter. The contribution of livelihoods on food procurement has also been altered by the impact of HIV/AIDS on livelihoods. This is discussed next.

4.3.2 The impact of HIV/AIDS on livelihoods

Some of the families in this study expressed the effect the sickness of their family member had on their livelihoods (or income); however, other families were uncomfortable with expressing the HIV/AIDS status of their family members. In cases where the CHBC client was the respondent, HIV status was mostly revealed when they gave their health history and details on their recovery. The researcher followed these with a question of what it was that contributed to the improvement of their health. The answers were mostly the testing of their HIV status and subsequently using the antiretroviral therapy.

There is a general consensus among authors (Barrett et al., 2001; FAO, 1999a; World Bank, 2001, UNAIDS, 2002a; World Bank, 2003) that HIV/AIDS affects people of reproductive age severely, and that these people form a subset of the economically active group. In line with this affirmation, data from the study reflected that most of the people registered in the CHBC programme in Bokaa were young women of less than 40 years of age. Among those who took part in the study, none have been able to return to work since they fell ill due to HIV/AIDS-related ailments. The illness affected the sensitive part of the household livelihoods, viz. wage employment. Wage employment was regarded as a crucial source of livelihoods, as its unforeseen absence affects other sources of livelihoods. For instance, when wage employment is no longer possible, agricultural production, another source of livelihood, will be affected, as the family will no longer have the capacity to hire production implements such as tractors. This impediment then leads to a shortfall in agricultural production and, subsequently, to food shortages in the home, where demands for food cannot be met in the absence of

wage employment. (HIV/AIDS' impact on food procurement is discussed in more detail later in this chapter).

This means that the analysis of the impact of HIV/AIDS on livelihoods cannot focus on wage employment only but needs to consider other sources of livelihoods, such as agricultural production, as well. As stated above, the impact of HIV/AIDS on other sources of livelihoods has a direct link to the success of agricultural production.

4.4 Agricultural Production

The discussion on agricultural production was guided by questions which mainly sought to establish whether or not the family had any agricultural land, and, if so, who farms the land and what changes, if any, in the level of crop and livestock production have been observed. Further guiding questions related to changes, if there were any, in purchases of inputs and, finally, to whether HIV/AIDS could have been a contributory factor to the changes (if there were any). From the discussions, several themes emerged around this topic. These included the effect of drought on agricultural production, the incidence of sickness in the family and the death of an adult male person (not necessarily HIV-related) as well as the distance between the home and the field. Of the 13 households interviewed in this study, only 4 complemented their food purchases with own production.

4.4.1 The effect of drought on crop production

Drought was cited by most of the households who own land as the main reason why they are no longer engaging in crop farming. There was a general tendency among the households to withdraw from farming in the years in which there is not enough rainfall; some have left their farms fallow for more than five years. The following excerpts are from conversations in which drought was given as at least one of the factors that contributed to families' decision not to engage in farming.

Box 1

Case 2:

We have land. My grandmother is the one who used to farm this land. But we no longer do any farming *due to lack of rains*. The last time we did any farming on this land was in 1989. We tried again in 2001, but ***we did not reap anything so we gave up***, since then we have not done any farming.

Case 13:

We have land but I have abandoned it since I became blind. It is about four years now since we grew crops on it, because I was the one who was farming in it. Then my late daughter tried to continue, but when she got a job in the pipe construction she left, ***also because we had not got anything from the fields*** and her siblings were still attending school.

Case 6:

We have arable land, but it has been a long time since we grew crops; it can be about 10 or 15 years.

For most of Bokaa residents, the fields are less than 20 km from their dwelling places, which means that the farmers in the area are faced with the same climatic conditions as the village residents. However, some evidently continue to farm under these conditions while others opt for non-farm alternatives. Among those who have opted to withdraw from farming, there appears to be underlying factors leading to the decision to discontinue farming other than those that are drought-related. One such reason is the death of an adult male, especially a husband.

4.4.2 The death of a male partner

The death of a male partner also played a significant role in agricultural production, as such death contributed to reduced labour hours in the household and a reduction in the physical capacity of the household. As a result, the remaining partner withdrew from farming activities. This phenomenon was observed among widows, who considered themselves incapable of farming in the absence of their partners. Although these deaths were not necessarily HIV related, widows generally appeared to have difficulty with agricultural production after the death of their husbands. One of the reasons pointed out by the interviewees was that farming is costly and therefore, due to lack of financial capacity, it becomes difficult for widows to gain access to farming equipment (such as hired tractors). The death of a husband also had implications for the labour capacity of

the family, as agricultural jobs usually require physical strength which the widows lacked. In some cases, these widows also did not have any more labour to draw from in the household. The following excerpts are from conversations where the death of an adult male was cited as the reason for not engaging in farming activities.

Box 2

Case 7:

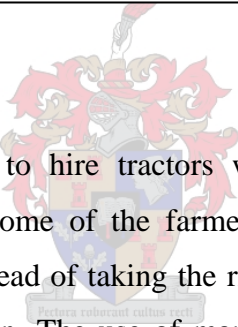
I used to farm, but since my husband passed away I no longer do any farming.

Case 12:

I used to farm (grow crops) and my husband left me (passed away) and I was no longer able to farm, because these days one farms when one has the capacity to farm (*“go lengwa ka dithata”*). Tractors are hired and I have no money.

Case 1:

My husband was given this piece of land by one of his relatives, but we have never used this land because we do not have money to hire tractors.



The lack of financial means to hire tractors was frequently cited as one of the hindrances in crop farming. Some of the farmers opt to use their limited financial resources to purchase food instead of taking the risk of farming and having little or no harvest at the end of the season. The use of manure to ensure a better harvest is not practiced among these households.

4.4.3 The use of manure

Among households which were active in crop farming, there were few strategies used to ensure a good harvest, but none of the households cited the use of manure for crop production. Therefore, their income was never spent on purchasing manure and, as a result, any changes in quantity of crops harvested were never associated to the use, or lack thereof, of manure. There were two main strategies for ensuring a good harvest, namely (i) weeding, which was considered the most important practice in ensuring a good harvest and (ii) scaring away birds, which demands that there must be somebody at the field on a regular basis, the failure of which may lead to a reduced harvest.

4.4.4 The impact of HIV/AIDS on crop production

Information provided by the respondents indicated a minimal impact of HIV/AIDS on agricultural production. The impact was stated as minimal because drought was cited as the main reason for not farming in cases where the families did not farm for a particular year. Even in cases where the non-farming coincided with the illness and the related care, most of the households stated that caring for the sick family member was done mainly during the year in which the family had not grown any crops and therefore the sickness did not have any impact on the harvest. However, there were families who indicated that taking care of the sick family member contributed to a reduced harvest, as birds ate the crops during the times when the fields were abandoned in order to take care of the sick family member. In addition, some families decided not to grow any crops at all and rather use the labour hours to care for the family member. From the latter responses it can be deduced that HIV/AIDS significantly affects agricultural production. The following are excerpts from conversations on the impact of HIV/AIDS on crop production.



Box 3

Case 5:

She started getting very sick in 2001 and she was taken care of by her mother. In that year, she did not farm because there was no rain and they stayed at home, they did not go to *masimo* (=fields/lands).

Case 8:

Last year also I was nursing my daughter who is sick even now and my crops were destroyed. I never got anything. My time was taken by nursing (“*kene ke diilwe ke go oka*”) and then I ended up with hunger, having no food. But now, as she is not well again, I don’t know how long it will take. I may stay here for a longer time and the crops may be eaten by the cattle again.

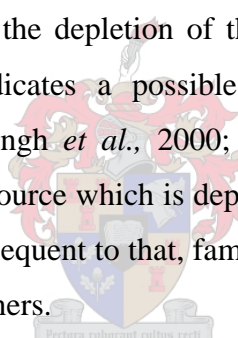
Case 10:

During the time when I was sick my mother did not do any farming due to my sickness, she decided not to farm because of my illness.

4.4.5 Livestock production

Most of the households reported having no livestock, especially cattle, and for those with livestock, care for livestock is done hand in hand with crop farming. Labour is therefore shared between these activities and in the incidence of sickness; labour is further shared to care for the sick member of the family, all according to the household's judgement. Because cattle are usually taken care of in places near the fields, this has also contributed to low harvests in cases where the cattle have gone into the fields and destroyed the crops. The impact of HIV/AIDS on livestock production among these households appeared to be minimal; in fact, cattle thrived due to being able to feed on crops whenever fields were left alone while the responsible members of the family went to care for the sick members. One such case is illustrated in the following text box.

However, an HIV/AIDS-related death and the subsequent feeding of mourners during the funeral may contribute to the depletion of the livestock. Literature on the use of livestock during funerals indicates a possible depletion of this resource due to HIV/AIDS-related funerals (Engh *et al.*, 2000; Rugalema, 2001). In the interviews, cattle were cited as the one resource which is dependable during funerals and big social events, such as weddings. Subsequent to that, families without cattle have to find means of securing cattle to feed mourners.



Box 4

Mmametsi (pseudonym) was a widow who had a sick daughter. Her labour hours and those of her two sons, were shared between taking care of the sick daughter, tending to *masimo* (= the fields/lands) and taking care of the crops and livestock (cattle and goats). Under normal circumstances, her two sons concentrated on taking care of the livestock, but when she was at home taking care of the daughter, her sons divided their time between taking care of the field (which is mainly her responsibility) and taking care of the livestock.

Apart from going home to take care of her daughter, she occasionally had to leave her fields to attend funerals in the village.

4.4.6 Mafisa system

The Mafisa system, which was traditionally used to buffer needy families, emerged as a practice which is dying out. According to du Pradal (1984), the mafisa system is a form of cattle re-distribution, where cattle are loaned to a family to provide the recipient with draft power and milk. The recipient is responsible for feeding and providing water for the cattle, for which services they may occasionally receive payment in the form of one calf. The cattle owner therefore gains on free labour, water and, in some cases, better grazing (du Pradal, 1984). In this study, only one household had benefited from this system, with the death of the husband (which was not HIV related) in this household resulting in the mafisa cattle being returned to their owners, as there was no more labour to care for the cattle. The following text box illustrates:

Box 5

Mma Morele (pseudonym) is a widow. She lost her husband in 1999 (this was not an HIV/AIDS-related death). While he was alive, he used to do piece jobs and farming. In January 2004, she lost a son, who also used to do piece jobs, due to an HIV/AIDS-related illness.

“I have no cattle and no goats. He (the husband) just left me in serious poverty (*mo lehumeng le le bokete*). We never had cattle. We just used to keep other people’s cattle (mafisa) and after my husband passed away, I asked the owners to take them back because I had nobody to take care of them”.

4.5 Food Procurement and Consumption Patterns

The questions used to lead the discussion and source information related to food procurement and consumption were mainly focussed on how the households obtained their food; whether there were times when they had to buy food; whether they ever go hungry due to either lack of food or money to buy food or both, and how they coped under such circumstances. The respondents were further asked to draw a distinction between the way they used to get food before the sickness or death of their family member and after the sickness or the *status quo*.

Another factor discussed was the main food the household consumed. This question mainly sought to establish whether or not there was a variety in the household's diet, whether the diet was nutritionally rich and whether there were any age or gender differentials in the allocation of food during meal times. In addition, the questions sought to establish whether there have been any changes in the type of food consumed and whether or not HIV/AIDS could be the cause of these changes.

According to Van Rooyen and Sigwele (2001), the main sources of household food security in Botswana are wages and remittances, with agricultural production playing a minor role. This was confirmed by the information from the interviews in Bokaa, with most of the households citing purchases as a significant food procurement strategy.

4.5.1 Animal protein procurement

Most of the interviewed households did not own cattle or small stock; nonetheless, the availability of animal protein in the diet of the households was not correlated to cattle ownership. As reported in the interviews, cattle were never slaughtered merely for consumption; rather, they were mainly used during hard times, like funerals, for solving major financial problems as well as for big social events, such as weddings and Christmas celebrations. It was chicken that was slaughtered for household consumption and, in some cases, sold in order to purchase other items. The responses in the following text box serve as illustration.

Box 6

Household 2:

Cattle are used only for funerals and weddings and to solve certain social problems.

Household 5:

Chickens are sometimes sold and are also used as the protein accompaniment for cereals, but not cattle.

Household 8:

Cattle are killed during Christmas and Independence celebrations.

Household 10:

Cattle are sold to solve special social problems and not for buying food. Chickens are killed for household food.

The purchase of red meat was evidently highly income elastic: most of the households stated that they usually eat or buy red meat at the end of the month. Red meat was the favourite food of most of the households. This was evident from the way in which the respondents expressed regret at their lack of money to purchase it and from remarks that red meat was bought whenever the household had money.

4.5.2 Food availability patterns

Food availability patterns within these households were observed using data on food availability (i) before the sickness, (ii) at the time of the interview, which was either during the sickness or after the death as well as (iii) during the period of caring for the orphans.

As an HIV/AIDS-related illness finds households at different levels of food availability, there is evidently a distinction in the way HIV/AIDS affects households' food status during the sickness and after death. Furthermore, households have different strategies of food procurement as well as varied family compositions. As a result, the coping strategies are also expected to differ among these households. From the interviews, these differences were evident. A clear distinction was observed between the following households:

- (i) Those who were already at low levels of food availability before the incidence of HIV/AIDS and those who were at relatively higher level of food availability before the HIV/AIDS incidence;
- (ii) Those households in which a family member's death left orphaned children and those whose late member had no children; and
- (iii) Those whose sick member did not make any major contributions to the food budget before sickness and those whose sick member did make a significant contribution.

From the interviews, it appeared that households where the sole breadwinner, or another family member who contributed significantly to the food budget, fell ill and eventually died but did not leave orphans, faced different effects and applied different coping strategies. Figure 4 depicts a typical pattern observed among such households. The

levels indicated on this graph were assumed to exist, as the interviews did not produce figures that could clearly quantify these changes.

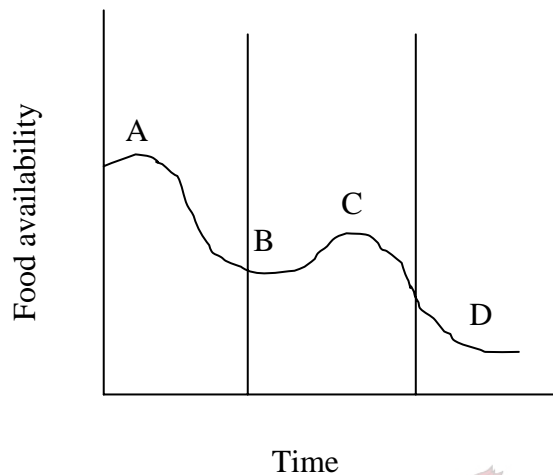


Figure 4: The case of a breadwinner's death, not resulting in orphans (Relatively food-secure household)

Point A indicates that the household started at a food availability level that was assumed to be relatively high. As the household is exposed to the effects of the disease, one of which may be a loss of the income of the sick family member, the capacity to purchase food declines, leading to a level indicated by point B. This point is commonly considered by the families to be a transitory food shortage phase, in anticipation of government support. Nonetheless, at point B, one of the possible ways in which the family could improve their food situation could be to use their savings (if available). However, what emerged from the interviews was that the families' situation improved somewhat when they received the food basket for the sick person. Because the basket is not meant for the entire household, but only for the sick member, the basket does not restore the family's food availability level to a desired level (or the original level) but to a point such as C, which is better than B but noticeably worse than A. The family would receive this food basket as long as their sick member is alive. In case of death, the food basket ceases and the food situation deteriorates further if no other solutions were sought.

Another pattern, similar to the one depicted in Figure 4, was observed where the food basket was received by a family that had been living in poverty and had relatively small

fluctuations in their food availability due to unreliable or erratic money supplies from occasional piece jobs. In such cases, the food basket was considered very helpful and viewed as a significant and reliable source of food. As in the previous case, if the family member did not have any children who would qualify as orphans after the death of the member, this family's food situation also deteriorated after the death. Figure 5 illustrates this case.

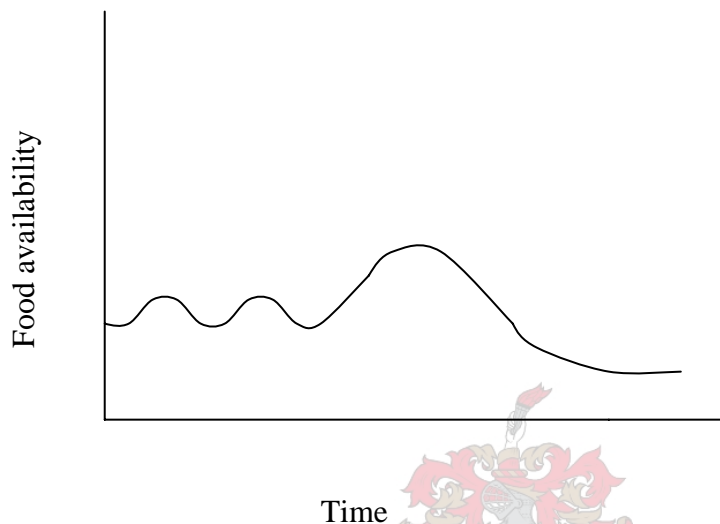


Figure 5: Erratic food supply followed by the food basket and no orphans after death

The mirror image of the graph in Figure 4 was observed in a situation in which the case depicted in Figure 5 was followed by orphans' food baskets. In this case, the family started at a low level of food availability, or poverty, followed by the constant food supply from the patient's food basket and, subsequently, by the orphans' food baskets (in cases where the deceased had more than one child and the family therefore qualified for two orphans' food baskets, resulting in an even higher level of food supply). On the other hand, a household that was originally at a high level of food availability may have been brought back to this status in cases where the orphans' food baskets could be equated to what the family used to provide for themselves before the incidence of AIDS. This scenario is illustrated in Figure 6.

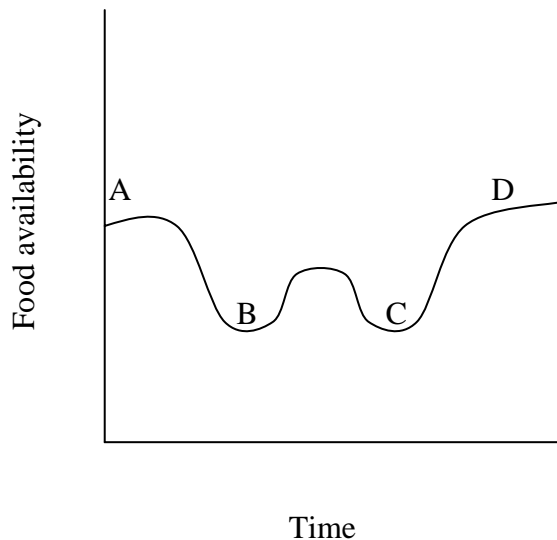
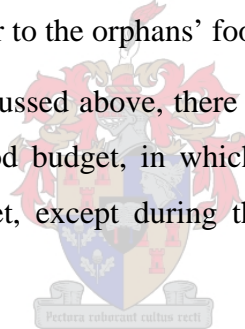


Figure 6: The death of a breadwinner resulting in orphans

Points B and C are transitory food shortage periods, where B is prior to the patient's food basket and point C is prior to the orphans' food basket.

In addition to the patterns discussed above, there were households whose sick member did not contribute to the food budget, in which case the sickness or death did not directly affect the food budget, except during the period when the sick person had special food needs.



The following paragraphs contain a discussion on the general impact of HIV/AIDS on the food availability of four households interviewed in this study. This discussion complements the one on the scenarios depicted by Figures 4 to 6.

The first household (identified as "Household 9") consisted of four members: a woman (the mother of the child who was not an orphan) with three children, two of whom were orphans. As a result, the household received two orphans' food baskets. Before HIV/AIDS and the subsequent death, the household was faced with frequent food shortages. The two food baskets provided a reliable and superior source of food.

The second household ("Household 12") consisted of seven members; a widow, three adult children (one disabled) and three grandchildren. The eighth family member died due to HIV/AIDS-related sickness. At the time of the interview they depended on an old-age pension and used to depend also on income from piece jobs while their family member was alive. Before dying, the sick member received a food basket for two months and the respondent stated that their food situation improved during this period.

At the time of the interview, they were living on the old-age pension and from the income of the member who had recently secured a piece job. Unlike Household 9, this household did not have orphans (the late family member had no children) and, as a result, did not benefit from the government's food provision for orphans. The food situation in Household 12 therefore deteriorated after the death of the sick member, as the late household member's income and food baskets ceased. The old-age pension was over-burdened by the food needs of this relatively large family (compared to the first household). Furthermore, the family member who recently started piecework was reported to be bringing in less income than did the late member.

The third household ("Household 13") consisted of four members, a grandmother and three grandchildren, two of whom are orphans. Therefore Household 13 was receiving two orphans' food baskets at the time of the interview. Before the illness and subsequent death, the family was relatively food-secure and the food baskets have raised them to a level almost equivalent to before the illness. Although the family size and food received from government were equivalent to that of Household 9, Household 13's scenario could be viewed as a non-effect one, in that the effect of the disease on their food availability has been compensated (by government) to such an extent that they regained their original food status.

The fourth household ("Household 3") consisted of nine members; a grandmother, her daughter, four grandchildren and three great-grandchildren (four generations). At the time of interview, all nine members were dependent on one food basket (for patients). Prior to the illness, the family had a relatively high food availability status (according to the respondent, who is both the head of the household and the sick family member). Before the illness, the respondent was self-employed in a profitable business and was able to cater for the food needs of the family. As stated by the respondent, contents of the food basket was far less than what the family used to purchase.

4.5.3 Consumption patterns

Literature (Haddad *et al.*., 1996; Nazli and Hamid, 1999; Millman and de Rose, 1998) indicates a bias towards male members when food is distributed within households. These biases differ according to social classes, age groups and from state to state (de Rose *et al.*., 1998). De Rose *et al.* (1998) observed that where there are no gender differences in household meal allocations, women become more disadvantaged during

pregnancy and lactating periods. In some cases, this bias leads to smaller portions being given to children. Steinberg *et al.* (2002) asserted that children equally go hungry (like other members of the household) when HIV/AIDS affected households run short of food. In line with the findings of Steinberg *et al.* (2002) children in this study were sharing whatever was available with other household members. None of the households in the study indicated any bias towards males. The general viewpoint was that food should be shared equally and if somehow all the food has been dished up before every household member has been served, then food should be taken from the plates to which food had already been allocated in order to provide for those who have not yet received their portion. Tables 3 and 4 contain information on the food items that each of the 13 interviewed households regularly consumed before and during the illness, respectively.

Table 3: Food consumed before the illness

Food Items	Households												
	01	02	03	04*	05	06	07	08	09	10	11	12	13
Mealie meal	X	X	X	X		X		X	X	X	X		
Samp			X										
Sorghum meal	X		X		X	X	X	X		X	X	X	X
Bread	X												
Sugar		X						X					
Morogo wa Setswana	X	X			X	X	X	X	X		X	X	X
Rice			X		X	X		X		X		X	
Macaroni					X								
Milk				X	X			X ³⁵		X	X		
Beans								X			X		X
Cabbage and/or Spinach	X	X	X			X		X			X	X	X
Fruits				X						X			
Meat	X	X	X	X	X	X	X	X		X	X	X ³⁶	X
Other vegetables	X	X	X	X	X	X			X	X			X

*Household 4 has taken in orphans from another household.

X: corresponds with the food the household indicated to be part of their diet, which may have been obtained through purchases, own production or both.

³⁵ Milk from cattle at masimo (= lands).

³⁶ Meat and spinach were consumed, but only on rare occasions.

Table 4: Food consumed during illness or after death

Food Items	Households												
	01	02	03	04	05	06	07	08	09	10	11	12	13
Mealie meal	X	X	X	X		X		X		X			
Sorghum meal	X		X		X	X	X	X		X			
Bread													
Sugar													
Morogo wa Setswana					X		X	X					
Sour milk	X												
Milk				X	X			X					
Rice										X			
Beans				X									
Cabbage and Spinach	X*						X						
Fruits				X						X			
Meat	X			X	X	X	X	X		X			
Other vegetables				X	X					X			
Cornflakes and Oats				X*									

X*: These are food items which have become rare due to illness and lack of money. In the case of Household 4, they started buying these because of the orphans.

Table 4 above represent the main food items households consumed after the incidence of HIV/AIDS.

In the second household, the same food items were consumed as before sickness. The family was supported by relatives and the sick family member's contribution to the household's food was also minimal before the illness.

Sorghum and mealie meal were the main food items consumed in the third household. The food basket lasted for two weeks and the two food items were what the family lived on from the middle to the end of the month. Sometimes they had to ask one or both of these two foodstuffs from other family members (in other households) when they have run out before receiving the food basket.

In household 6, the food items on the table are what the family used to consume before the food basket. The food basket has reversed the family's food access to the status before the illness. There were times of food shortage, during which they asked food

from one family member who is married. Food purchases were made using the father's old-age pension money.

In household 7, the family was mainly living on *morogo wa Setswana* and sorghum, before receiving the food basket. Vegetables and meat were brought by the sick grandchild's mother in Gaborone at the end of the month. The grand child was brought to the village after she left her job due to sickness.

Household 9 lived on sorghum and *morogo wa Setswana*, due to HIV/AIDS access to the food items was depleted further. At the time of the study there were receiving two orphans food baskets, which was a much significant improvement on their food access.

Household 10 highlighted shortages of meat, fruit and vegetables. The food basket was reported to last for two weeks, while the fruits, meat and vegetables were already all consumed within the first week.

Household 11 faced more food shortages before the orphans started receiving the food baskets and, during this time, a larger proportion of their aunt's salary was spent on food and often had to take food on credit from one of the local shops.

In household 12, the son who passed away due to HIV/AIDS used to do piece jobs as a brick layer, and he would buy food as and when he receives payment. Also, the mother received the old-age pension money. Before the son passed away they received a food basket for two months. The food basket improved their food accessibility, although it was for a very short time.

The food baskets received by the orphans in household 13 were able to meet the food needs of this household, that is the grandmother and three grand children two of which belong to the late daughter.

4.5.4 Monotony of diet

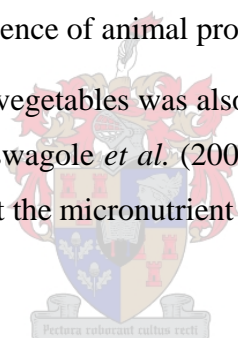
The type of food consumed in the households that participated in this study reflected monotony in the diet as well as low nutritional value. Sorghum was cited by most of the households as their main food consumed, usually accompanied by the traditional vegetable relish (*morogo wa Setswana*). Consumption of wild leafy vegetables, which is a coping strategy typical of food insecurity behaviour, was not cited by any of the households interviewed. This may be due to lack of these vegetables as a result of low levels of rainfall. Households relied on purchased vegetables and traditional vegetable

relish. Animal protein was normally consumed at the end of the month and, occasionally, during the month (when money became available at a time other than at the end of the month). Red meat especially appeared to be highly income-elastic, the consumption of which has become accepted as a month-end activity.

Red meat became a month-end food, because this is the time when the pensioners receive their pension money and, in some cases, also remittances in the form of cash or food, including meat. To some, the consumption of meat is not necessarily a result of cash availability but of receiving the food basket(s) and therefore receiving meat.

A lack of nutritional knowledge has been observed as well as the need for change of attitudes towards some of the nutritious traditional food such as *morogo wa Setswana*. These were evidently lowly regarded, judging by the manner in which households were citing them as part of their consumption patterns. The use of beans as relish was also not held as an acceptable option. Regardless of beans' nutritional quality (beans being a source of protein and vitamins, especially vitamin B) (Garow and James, 1994), beans were only considered in the absence of animal protein.

The consumption of fruits and vegetables was also very low among the households who participated in this study; Motswagole *et al.* (2003) suggested that low consumption of fruits and vegetables may affect the micronutrient status of individuals.



4.5.5 Food shortages and inter-household relations

Some of the manifestations of the forms of poverty in Botswana as articulated by Jefferis (1997) include malnutrition and dependency on relatives, neighbours or the state.

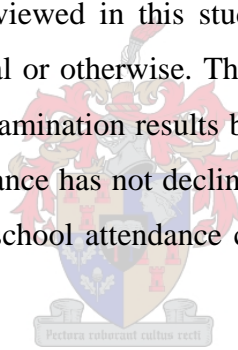
Food shortages were common in these households interviewed, especially towards the end of the month. The extent of the food shortages and what food shortage means differed from household to household. To some, not having meat was a food shortage; to other households it was normal to follow a diet without meat and therefore they defined a food shortage as the general non-availability of food. Because of the different ideas of what constitutes a food shortage, such shortages were dealt with by means of diverse coping mechanisms, including obtaining food on credit at one of the shops in the village. Inter-household effects were prevalent, as some of these food shortages were handled by asking for food from relatives and neighbours, the common practice

being getting food from the extended family members (usually siblings of the household head).

4.6 School Attendance

In the households interviewed in this study, the issues around school attendance differed from most of the literature on the impact of HIV/AIDS on school-related matters. The main reason for this is because there are no school fees charged in Botswana, neither for primary nor for secondary school. The main school-related expenses are school uniforms and 'food'. Food is placed in quotation marks because, although there is money paid at school termed "money for food", this is not paid for the food itself (as food is provided by the government); rather, the money is usually used for other expenses related to food preparation, such as purchasing firewood.

None of the households interviewed in this study have ever removed children from school for any reason, financial or otherwise. The children who dropped out of school mainly did so because poor examination results barred access to the next level. One of the reasons why school attendance has not declined is because children receive at least one meal at school, as result school attendance can be viewed as a link to daily food access.



4.7 Care for Children Younger than Five Years

The care for children was viewed as an important financial issue among these households. This was reflected by the initial response of the respondents to the question of who takes care of the young children. Most of the respondents did not refer to childminding duties when initially answering this question; rather, they first discussed the financial assistance or the lack thereof from the children's father(s) and from the family in general³⁷. Only when the researcher drew the focus of the respondents to the general care of the children, by asking follow-up questions such as "Who cooks for the children and bathes them?", did the respondents provide information on whether the time given for taking care of the children changed or not in relation to the time given to caring for the sick family member.

³⁷ This type of question would have been wrongly addressed had it appeared in a self-administered questionnaire.

The illness of the family member is expected to reduce the time given to other household chores including caring for the children. Direct responses to child minding duties from the interviews did not reflect any change to the time given to children. The time changes were observed through answers to other questions which in some cases indicated that the sick persons used to assist in caring for the children were not able to do so during the times of illness.

4.8 The Stigma Associated with HIV/AIDS

It was left for the family members (respondents) to decide whether they reveal the HIV/AIDS status of the family members or not during the interviews. The first question on the original interview schedule was one which asked about the HIV status of the sick family member. This question was left out in the revised schedule. As a result, some of the households chose to talk about how the illness and/or death of their family member has contributed to their current food security status while omitting the HIV status of the ill or late family member. This could have been due to the stigma associated with HIV/AIDS, causing family members or patients to be unwilling to express their status. On the other hand, some respondents, some of whom were the patients themselves, were very comfortable relating their HIV status to the researcher, often providing their health history in a comprehensive way. From the differences observed regarding stating the HIV status, it is evident that there are still people who are not comfortable with expressing their status, even when they are aware of it. Nonetheless the progress made with AIDS education (Fredriksson and Kanabus, 2003) is reflected by those who are able to express their status. One of the respondents had further declared her HIV status publicly.

4.9 Intra- and Inter-Household Effects in Caring for the Sick

Inter-household relations were observed during times of illness through provision of food and cash. Most of the households in the study pointed to the extended family as supportive during the time of illness. Apart from providing food and money, support

was provided in the form of physically caring for the sick and assisting with funeral arrangements.

A study on how households cope with the impact of HIV/AIDS in South Africa by Steinberg *et al.* (2002) reflected a high percentage of women as caregivers during times of illness. In line with their findings, care for the sick among households in this study was observed to be skewed towards female family members. Assistance from the extended family was in the form of aunts and sisters coming to the home of the sick person to assist with bathing and cooking for the person, as well as providing emotional support to the caregivers. During the interviews, mothers, aunts, grandmothers and sisters were identified as the ones who were active during times of illness. The contribution of the male members of the families was more in the form of food and toiletry purchases. However, in one case, the respondent stated that her husband, who was also HIV positive, was her primary caregiver while she was very sick. He also dealt with food shortages by visiting relatives to ask for food.

Inter-household relations were further observed in the way in which families covered funeral expenses. Inter-household financial contributions were indicated as a common practice among these households. It should be noted that not only inter-household financial contributions but also burial societies play a significant role during times of bereavement: one of the respondents stated that money from these societies made the financial burden more bearable when they combine the money with the contributions made by other family members.

4.10 Pensions

Pensioners played an important economic role in the households interviewed in this study. Instead of being dependants, they have switched roles to become valuable contributors in the households' financial affairs by providing support to their children and grandchildren, especially in cases where the middle generation was absent due to death. With HIV/AIDS and the death mainly of the middle generation leading to reduced incomes in these households, the old-age pensions have become very significant and, further contribute to intergenerational solidarity (Legido-Quigley, 2003).

In line with the findings of several authors, including Legido-Quigley (2003), pensions were used to meet several needs, among these counted food purchases, payments of medical bills and covering school-related expenditures, such as school uniforms. In all the households with pensioners, the pension money played a significant role, even in those households which were relatively well-off. In the poorer households, the money was used mainly for food purchases, whereas in other households it was used to cover medical bills of private doctors. Poorer households generally did not make use of private doctors; they mainly indicated government health facilities as their source of medical assistance. However, as discussed in the next section some of the households found in their thin budgets money for traditional doctors.

4.11 Medical Expenses

4.11.1 Traditional doctors

Most households in this study used government health care facilities (i.e., clinics and hospitals) during sickness. However, some households indicated that they consulted traditional doctors during sickness. These households pointed to the household members and the extended family as their sources of income to meet the bills of the traditional doctors. However, in some households certain other resources, such as personal savings, were running dry due to these resources being used to cover the expenses incurred by visits to traditional doctors.

4.11.2 The role of government in covering medical expenses

In this study, the burden of medical expenses was not found to be as heavy as reported for other African countries experiencing a high prevalence of HIV/AIDS-related ailments (White and Robinson, 2000). Government (through the CHBC referral system) has provided a means for sick family members to be provided with free medication and, where necessary, free transport to another health care facility on referral basis. This was evident in Bokaa, where patients receiving anti retroviral therapy (ARV) in Gaborone's Princess Marina hospital were provided with free transport.

Of the 13 households interviewed, the HIV status was only revealed in five households, three of which were revealed by the patients themselves and the other two by the family members who were interviewed. The three patients who revealed their HIV status indicated that there was a significant improvement in their health, which they attributed to the use of ARV. One of the respondents stated that before the ARV, her health had deteriorated to such an extent that she was unable to eat solid food. At the same time, her household was experiencing food shortages and had to ask for food from relatives. Eventually, she received a food supplement drink (Ensure) from the clinic. Having a reliable supply of nutrients (in the form of Ensure) combined with the ARV, both supplied at the government's expense, had led to a marked improvement in her health.

From these responses, it may be deduced that the use of ARV resulted in improved health, which may give families time to transfer some skills to the next generation. This has been pointed out by one of the respondents, who stated that since her health improved, she has imparted some skills to her children so that they can help her to revive the family business that closed down due to her illness. Another respondent anticipated going back to work since she was now feeling well; at the time of the interview, she was able to perform normal household chores such as scrubbing and polishing the floor in her single-roomed house.

Underlying these positive reports about ARV is the need for sufficient food while receiving this therapy. In this study, food shortages were indicated as a possible hindrance to the successful use of ARV. The respondents stated that when they took this therapy they needed to eat well. Regrettably, some of the households in this study were challenged by the food shortages while their sick members received ARV. As two of the respondents reflected, the food basket was not sufficient for them to eat well and to feed their children, yet the content of the basket had to be shared with the children as other sources of food were usually not available.

4.12 Summary

In this study, the analysis of the collected data followed the proposition of Yin (1984) that a case study can be analysed relying on theoretical propositions upon which the study is based. It was observed that food shortages were one of the negative effects of HIV/AIDS on the food status of the interviewed households as result of inability to access food. Coping strategies regarding food shortages and general food insecurity

differed among these households: for those with orphans, the orphans' food basket was generally used as a coping mechanism, whereas those with no orphans survived due to the buffers provided by inter-household relations, i.e., through asking for food from extended family and neighbours.

Transitory hunger periods during the time of illness were observed, before the family received the food basket and after the death of someone who had been contributing to the household's food budget. These hunger periods were also present before receiving the orphan's food baskets, in cases where the late family member had children³⁸. Livelihoods and coping strategies among these households appear to be centred on the food baskets and this has contributed to complacency, thereby hindering the household members to seek other and more sustainable sources of livelihood, which has in turn led to a dependency on the state. While some households have other sources of livelihoods, such livelihoods have generally been based on erratic piece jobs. At the end of this analysis, it is evident that government safety nets play a significant role in household food security, especially in the light of HIV/AIDS impact on the household's livelihoods and food procurement, the absence of the latter resulting in some of the households living in chronic hunger.

From this study, ARVs appear to play a significant role in improving the health of those with HIV/AIDS related ailments. This improvement of health and the possible recuperation may lead to a reversal of the lost sources of livelihoods resulting in the families' ability to access more food and becoming food secure. For those families who have lost their members, other means of livelihoods still remains to be sort.

³⁸ The children were considered orphans if they had only the late parent taking care of them, which is common with single parenting.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary and Conclusions

The aim of this study was to investigate the impact of HIV/AIDS on household food security through determining the following: (i) the impact of HIV/AIDS on household livelihoods; (ii) if and how subsistence agricultural production has been altered due to the pandemic; (iii) the impact of HIV/AIDS on household consumption patterns; (iv) the effect of HIV/AIDS on school attendance and (v) the effect of HIV/AIDS on time allocated to caring for children under five years old.

The impact of HIV/AIDS on household food security/insecurity was assessed through an assessment of the household's status before HIV/AIDS. How the pandemic has affected the household was assessed through an investigation of the current household status, i.e., after the sickness or death of a household member or relative who (previously) contributed to the food budget and whose sickness or death was therefore linked to the household's food security status. That is, the situation before HIV/AIDS and the one with/after HIV/AIDS were assessed.

Findings from this study are however not sufficiently representative to serve as a starting point for policy decisions. Nonetheless, they provide enough insight and circumstantial evidence to make the assumption that HIV/AIDS has a negative effect on household food security through its impact on livelihood streams, production and consumption streams, as well as inter- and intra-household activities.


5.1.1 The impact of HIV/AIDS on household livelihoods

Household livelihoods which were mainly centred on wage employment in the form of piece work and domestic work have been negatively affected by the incidence of the disease in these households. Income which was the means for food access has been altered leading to reduced amount of food purchased. Government transfers in the form of food baskets have therefore become significant forms of food access.

The case of Bokaa portrays much reliance on these government support systems: the food basket (for orphans and patients) and the pensions, that both target only particular individuals, are shared among several household members. As a result, the households have become highly reliant on these government safety nets. Although these support systems contribute positively to household food security status, through the provision of a buffer for the household, they have regrettably often become the sole means of livelihood, as some capable members of the household(s) refrain from partaking in income-generating activities, opting to do nothing but wait for the benefits to arrive.

Undocumented evidence from informal interviews with members of staff at the social welfare division also point to a reliance on government by households, which may be aggravated by some well-meaning government policies, such as the Revised National Policy for the Support of Destitute Persons. The new policy for the support of the destitute persons translated into more people in the same household receiving aid from the government.

5.1.2 How subsistence agricultural production has been altered due to the pandemic



Agricultural production plays a minor role in most of these households. Only 4 households among the 13 interviewed complemented their food purchases with own production. Among these 4, agricultural production was at times abandoned due to lack of rainfall. Nonetheless HIV/AIDS appeared to have a negative impact on agricultural production as some of the households had to abandon farming due to sickness in the family to the extent of choosing not to farm at all during the time of severe ailment of the family member. Agricultural production has also been affected through the abandoning of the fields (crops) in order to take care of the sick family member leading to less harvest. All this would reduce the family's capacity to access food.

5.1.3 The impact of HIV/AIDS on household consumption patterns

Due to the impact of HIV/AIDS on household livelihoods, consumption patterns have been altered as a result of reduced access to food. As reflected in tables 4 and 5 in chapter 4, some of the households were only able to buy more staple foods (sorghum and morogo wa Setswana) as compared to other vegetables and meat whose prices are

more affected by the market forces. Meat was more income elastic and therefore mainly consumed at the end of the month and rarely in the middle of the month. The food baskets have however positively contributed to the households' food availability.

5.1.4 The effect of HIV/AIDS on school attendance

Lack of school attendance in Botswana is less of a financial issue as the government covered all the core expenses such as tuition and books. What remained for the families are expenses for items such as school uniform. None of the families in this study have removed children from school due to lack of money. Removing children from school could be viewed as a sign of financial pressure on the household and may have implications on the household's ability to access food in the market. School attendance also contributed to food access as children daily received a meal at school.

5.1.5 The effect of HIV/AIDS on time allocated to caring for children under five years old.

In a household that is food secure, children may become food insecure due to lack of access to food as and when older members of the family fail to provide them with the food. Care of an ill member of the household may contribute to reduced care for the children. Although families reported no change in the time allocated for children, it was evident that such time has been altered especially in cases where the same person taking care of the sick member of the family is the same one taking care of the children or the sick member of the family having been the one responsible for taking care of the children.

5.1.6 Conclusion

The onset of HIV/AIDS finds households at a different level of food security and therefore its effect is unique to each household. Findings from this study reflect that the incidence of an HIV/AIDS related illness affects livelihoods and consequently income which leads to inability to access sufficient food as a result families become food

insecure due to HIV/AIDS and the resultant reduced income or lack thereof in case of death. Government assistance therefore becomes a very significant buffer for these families without which households would face hunger. Coping strategies during times of reduced ability to access food, such as through obtaining food on credit from the local shops, become ineffective as household income becomes less due to sickness and death. What remains other than government assistances are inter-household buffer systems, which may be depleted and become insufficient as more households face similar challenges due to the pandemic. On the other hand some of the government transfers are tied to age either only received at a certain age (old age pension) or ceasing at a certain age (orphan's foods basket). Other means of livelihoods therefore need to be sort.

5.2 Recommendations: The Way forward in Ensuring Food Security

Dependence on government support systems is not a sustainable alternative, as these buffer systems are only temporary measures. Several factors may, in time, tamper with these “cushions” that have evidently been enjoyed by these families. The comfort will last only so long as government funds last. Nonetheless it is important that macro-economic policies embed the need to sustain the welfare of the most vulnerable in the society. Targeting is therefore vital, so that resources would not be taken to those who need them less.

Household food security status needs to improve through empowering the income-generating capacity of the household. Emphasis should be on equipping households with skills to enable them to be self-reliant or less reliant on government support. As the income generating capacity of the household improves, access to food which has been stated as one of the concerns of the rural households will improve leading to food security.

Women's income, specifically pensions, has been observed to be strongly tied to the welfare of other household members, especially school attending children. Therefore there is need to empower women and to minimize women's vulnerabilities which, on the one hand, put them at risk of contracting HIV/AIDS or other illnesses and may, further hinder them from generating their own income. With regard to HIV/AIDS mitigation strategies, preventative measures should be viewed as the ultimate solution.

In addition good nutrition practices that used to be common in rural areas (e.g. eating bean soup with sorghum) have to some extent come to be despised and viewed as old-fashioned ways of eating. This was clearly observable from the way in which the respondents expressed their disdain at this type of diet. Preparing such seemingly old-fashioned, yet highly nutritious, meals needs to be encouraged, even during times when meat is available.

5.3 Possible areas for future research

There is need for a more researched study on the impact of HIV/AIDS on food security in Botswana; this may include a more quantitative aspect to complement qualitative studies.

The extent, to which households are aware of the nutritional contents, and therefore the value of traditional food, should be explored. From the interviews, it was evident that some household members were not aware of the nutritional value of some of the traditional food they consume and as a result this food was view as contingency measures in the absence of preferred foods, such as meat, even though meat was very scarce in these households.

The links between government support and possible sources of household livelihoods should be investigated to determine whether or not there is a crowding-out effect on other sources of livelihoods.

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